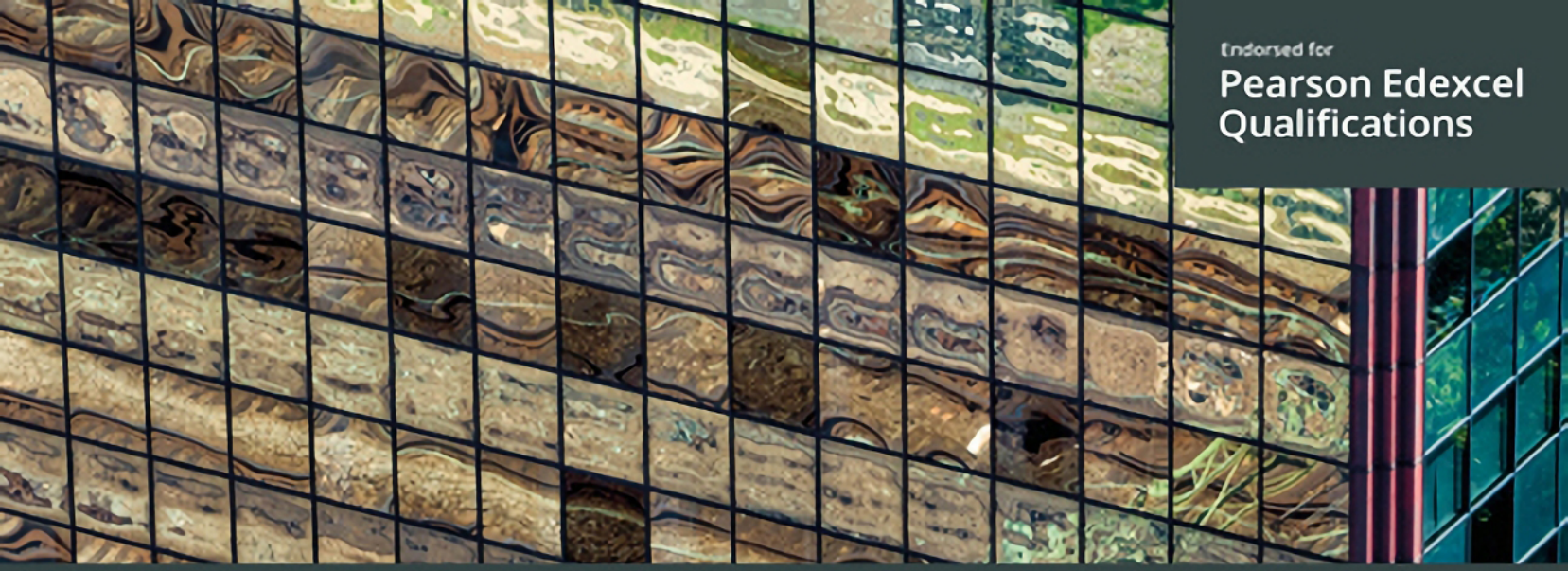

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# PEARSON EDEXCEL INTERNATIONAL A LEVEL

# ECONOMICS

## STUDENT BOOK 2

KAREN BORRINGTON
TRACEY JOAD

PEARSON EDEXCEL INTERNATIONAL A LEVEL

# ECONOMICS

## Student Book 2

Karen Borrington
Tracey Joad

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# ABOUT THIS BOOK

This book is written for students following the Pearson Edexcel International Advanced Level (IAL) Economics specification. It covers the second year of the International A Level qualification.

The book has been carefully structured to match the order of the topics in the specification, although teaching and learning can take place in any order, both in the classroom and in any independent learning. This book is organised into two units (Unit 3 Business behaviour and Unit 4 Developments in the global economy), each with several topic areas.

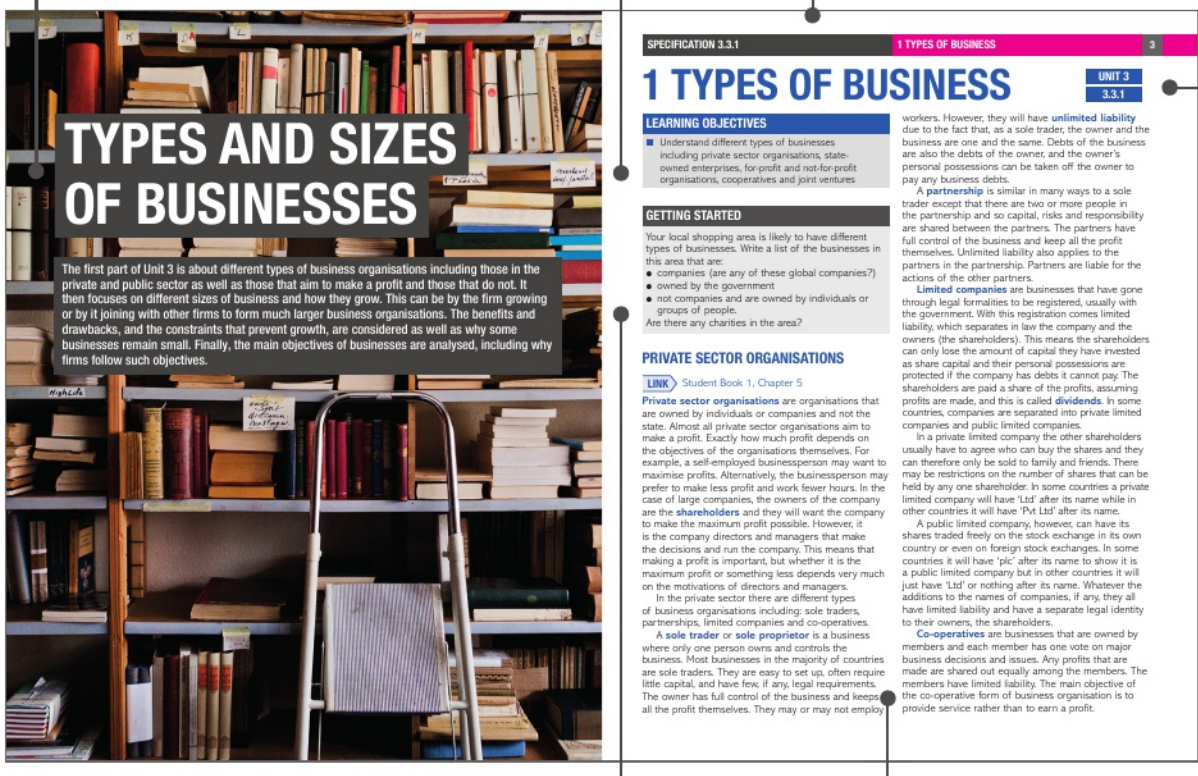
Each topic area is divided into chapters to break the content down into manageable chunks. Each chapter begins by listing the key learning objectives and includes a getting started activity to introduce the concepts. There is a mix of learning points and activities throughout, including global case studies that show a range of examples within real-life contexts. Checkpoint questions at the end of each chapter help assess understanding of the key learning objectives.

The content for Unit 3 is applicable to Paper 3 (Business behaviour) and the content for Unit 4 is applicable to Paper 4 (Developments in the global economy). Knowing how to apply learning to both of these papers will be critical for exam success. There are exam questions at the end of each chapter to provide opportunity for exam practice. Answers are provided online in the teaching resource pack.

**Topic openers**
Introduce each of the key topics in the specification.

**Learning objectives**
Each chapter starts with a list of key assessment objectives.

**Specification reference**
The specification reference is given at the start of each chapter and in the running header.



TYPES AND SIZES OF BUSINESSES

The first part of Unit 3 is about different types of business organisations including those in the private and public sector as well as those that aim to make a profit and those that do not. It then focuses on different sizes of business and how they grow. This can be by the firm growing or by it joining with other firms to form much larger business organisations. The benefits and drawbacks, and the constraints that prevent growth, are considered as well as why some businesses remain small. Finally, the main objectives of businesses are analysed, including why firms follow such objectives.

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## 1 TYPES OF BUSINESS

UNIT 3
3.3.1

**LEARNING OBJECTIVES**

- Understand different types of businesses including private sector organisations, state-owned enterprises, for-profit and not-for-profit organisations, cooperatives and joint ventures

**GETTING STARTED**

Your local shopping area is likely to have different types of businesses. Write a list of the businesses in this area that are:

- companies (are any of these global companies?)
- owned by the government
- not companies and are owned by individuals or groups of people.

Are there any charities in the area?

### PRIVATE SECTOR ORGANISATIONS

LINK Student Book 1, Chapter 5

**Private sector organisations** are organisations that are owned by individuals or companies and not the state. Almost all private sector organisations aim to make a profit. Exactly how much profit depends on the objectives of the organisations themselves. For example, a self-employed businessperson may want to maximise profits. Alternatively, the businessperson may prefer to make less profit and work fewer hours. In the case of large companies, the owners of the company are the **shareholders** and they will want the company to make the maximum profit possible. However, it is the company directors and managers that make the decisions and run the company. This means that making a profit is important, but whether it is the maximum profit or something less depends very much on the motivations of directors and managers.

In the private sector there are different types of business organisations including: sole traders, partnerships, limited companies and co-operatives.

A **sole trader** or **sole proprietor** is a business where only one person owns and controls the business. Most businesses in the majority of countries are sole traders. They are easy to set up, often require little capital, and have few, if any, legal requirements. The owner has full control of the business and keeps all the profit themselves. They may or may not employ workers. However, they will have **unlimited liability** due to the fact that, as a sole trader, the owner and the business are one and the same. Debts of the business are also the debts of the owner, and the owner's personal possessions can be taken off the owner to pay any business debts.

A **partnership** is similar in many ways to a sole trader except that there are two or more people in the partnership and so capital, risks and responsibility are shared between the partners. The partners have full control of the business and keep all the profit themselves. Unlimited liability also applies to the partners in the partnership. Partners are liable for the actions of the other partners.

**Limited companies** are businesses that have gone through legal formalities to be registered, usually with the government. With this registration comes limited liability, which separates in law the company and the owners (the shareholders). This means the shareholders can only lose the amount of capital they have invested as share capital and their personal possessions are protected if the company has debts it cannot pay. The shareholders are paid a share of the profits, assuming profits are made, and this is called **dividends**. In some countries, companies are separated into private limited companies and public limited companies.

In a private limited company the other shareholders usually have to agree who can buy the shares and they can therefore only be sold to family and friends. There may be restrictions on the number of shares that can be held by any one shareholder. In some countries a private limited company will have 'Ltd' after its name while in other countries it will have 'Pvt Ltd' after its name.

A public limited company, however, can have its shares traded freely on the stock exchange in its own country or even on foreign stock exchanges. In some countries it will have 'plc' after its name to show it is a public limited company but in other countries it will just have 'Ltd' or nothing after its name. Whatever the additions to the names of companies, if any, they all have limited liability and have a separate legal identity to their owners, the shareholders.

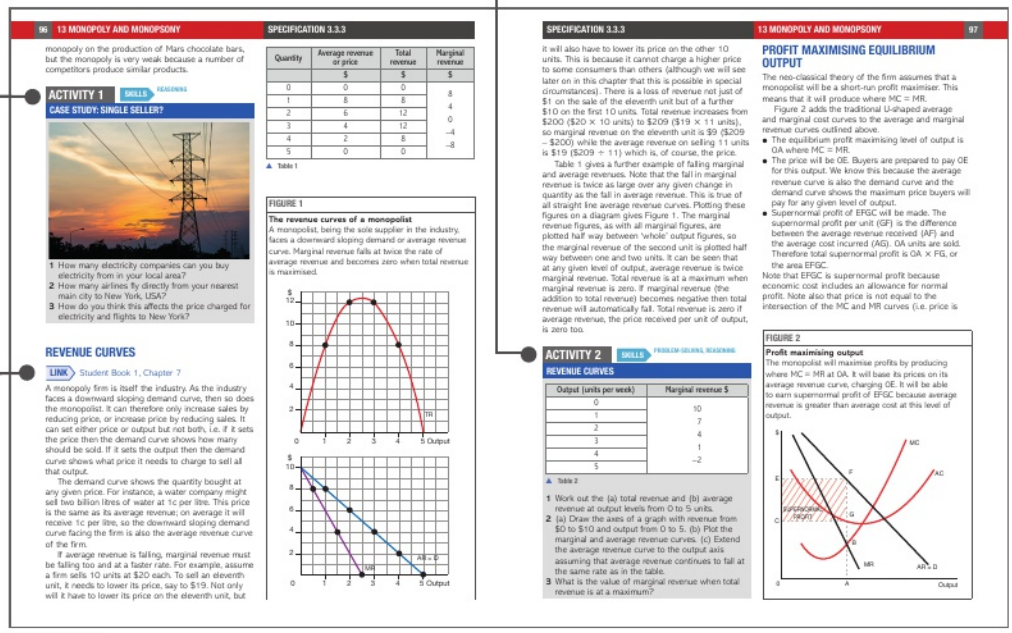
**Co-operatives** are businesses that are owned by members and each member has one vote on major business decisions and issues. Any profits that are made are shared out equally among the members. The members have limited liability. The main objective of the co-operative form of business organisation is to provide service rather than to earn a profit.

**Getting started**
An activity to introduce the key concepts in each chapter. Questions are designed to stimulate discussion and use prior knowledge. They can be tackled by individuals, pairs, groups or the whole class.

Key subject terms are colour coded within the main text.

**Activity**
Each chapter includes activities to embed understanding through case studies and questions.

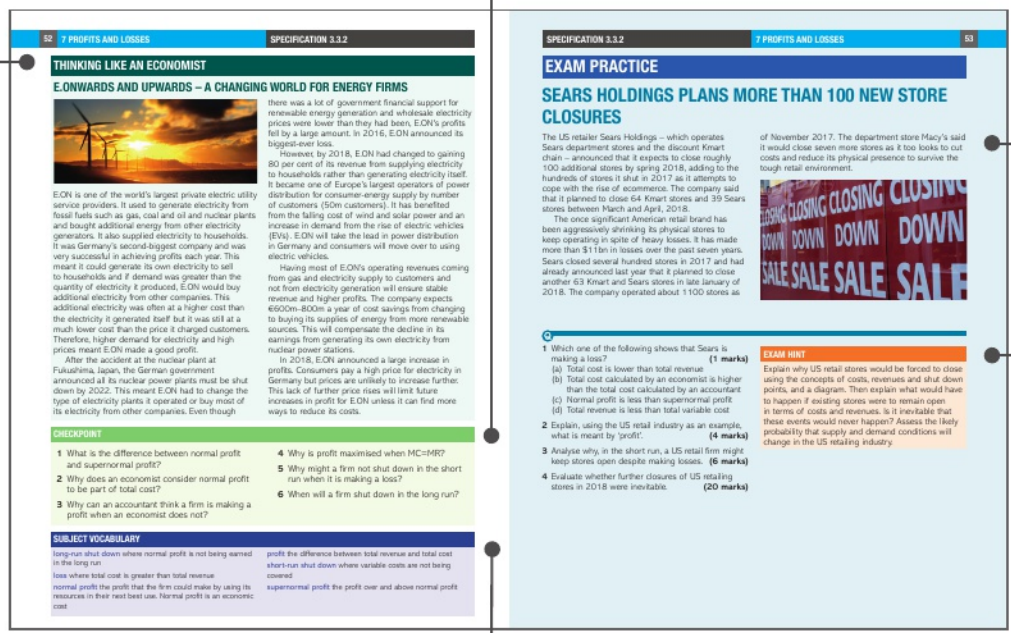
**Skills**
Relevant exam questions are labelled with key skills, allowing for a strong focus on particular academic qualities. These transferable skills are highly valued in further study and the workplace.




**Links**
Suggest ways that topics link to others to build on knowledge and develop synoptic skills.

**Checkpoint**
These questions check understanding of the key learning points in each chapter. These are NOT exam-style questions.

**Exam practice**
These questions are found at the end of each chapter. They are tailored to the Pearson Edexcel specification to allow for practice and development of exam writing technique. They also allow for practice responding to the command words used in the exams.




**Thinking like an economist**
Provide opportunities to explore an aspect of economics in more detail to deepen understanding.

**Subject vocabulary**
An alphabetical list of all the subject terms in each chapter with clear definitions for EAL learners. A collated glossary is provided in the eBook.

**Exam hint**
Give tips on how to answer the exam questions and guidance for exam preparation.

# ASSESSMENT OVERVIEW

The following tables give an overview of the assessment for this course. You should study this information closely to help ensure that you are fully prepared for this course and know exactly what to expect in each part of the assessment.

| PAPER 3 | PERCENTAGE OF IA2 | PERCENTAGE OF IAL | MARK | TIME | AVAILABILITY | STRUCTURE |
|---|---|---|---|---|---|---|
| **BUSINESS BEHAVIOUR**<br>Written exam paper<br>Paper code<br>WEC13/01<br>Externally set and marked by Pearson Edexcel<br>Single tier of entry<br>Calculators can be used | 50% | 25% | 80 | 2 hours | January, June and October<br>First assessment: January 2020 | **Section A:** six multiple-choice questions (6 marks), **Section B:** a five-part question, based on data provided in a source booklet (34 marks), and **Section C:** two 20-mark essay questions from a choice of three (40 marks) |
| **PAPER 4** | **PERCENTAGE OF IA2** | **PERCENTAGE OF IAL** | **MARK** | **TIME** | **AVAILABILITY** | **STRUCTURE** |
| **DEVELOPMENTS IN THE GLOBAL ECONOMY**<br>Written exam paper<br>Paper code<br>WEC14/01<br>Externally set and marked by Pearson Edexcel<br>Single tier of entry<br>Calculators can be used | 50% | 25% | 80 | 2 hours | January, June and October<br>First assessment: June 2020 | **Section A:** six multiple-choice questions (6 marks), **Section B:** a five-part question, based on data provided in a source booklet (34 marks) and **Section C:** two 20-mark essay questions from a choice of three (40 marks) |

## ASSESSMENT OBJECTIVES AND WEIGHTINGS

| ASSESSMENT OBJECTIVE | DESCRIPTION | % IN IAS | % IN IA2 | % IN IAL |
|---|---|---|---|---|
| **A01** | Demonstrate knowledge of terms, concepts, theories and models to show an understanding of the behaviour of economic agents | 27.5 | 18.8 | 23.1 |
| **A02** | Apply knowledge and understanding to various economic contexts | 30 | 22.5 | 26.3 |
| **A03** | Analyse issues and evidence, showing an understanding of their impact on economic agents | 22.5 | 28.8 | 25.6 |
| **A04** | Evaluate economic arguments and use appropriate evidence to support informed judgements | 20 | 30 | 25 |

Note: Percentages may not add up to 100 due to rounding.

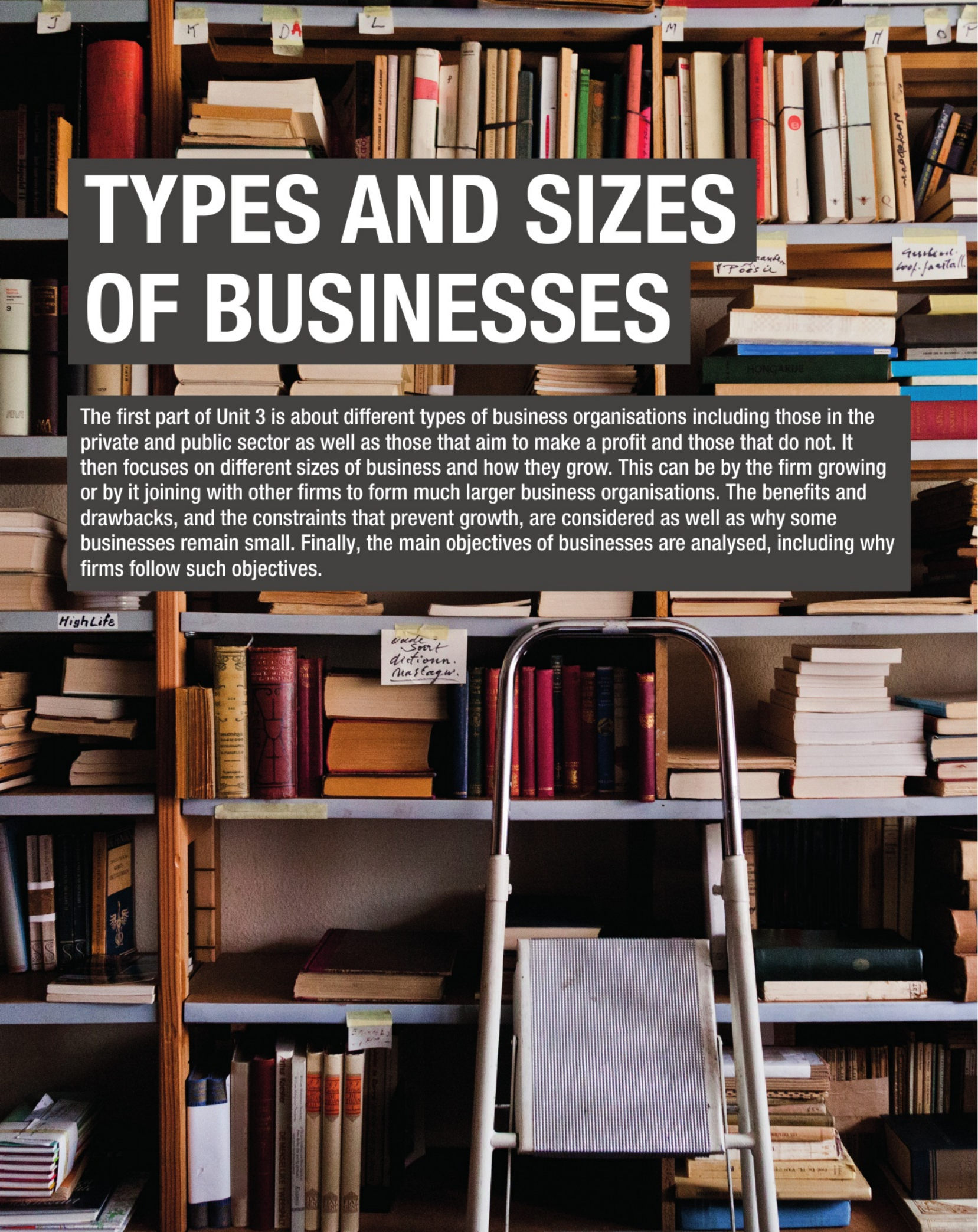
# RELATIONSHIP OF ASSESSMENT OBJECTIVES TO UNITS FOR THE INTERNATIONAL ADVANCED SUBSIDIARY QUALIFICATION

| UNIT NUMBER | ASSESSMENT OBJECTIVE | | | |
|---|---|---|---|---|
| | A01 | A02 | A03 | A04 |
| Unit 1 | 6.9% | 7.5% | 5.6% | 5% |
| Unit 2 | 6.9% | 7.5% | 5.6% | 5% |
| Unit 3 | 4.7% | 5.6% | 7.2% | 7.5% |
| Unit 4 | 4.7% | 5.6% | 7.2% | 7.5% |
| Total for International Advanced Level | **23.1%** | **26.3%** | **25.6%** | **25%** |

Note: Percentages may not add up to 100 due to rounding.

# RELATIONSHIP OF ASSESSMENT OBJECTIVES TO COMMAND WORDS

| COMMAND | NUMBER OF MARKS | MARK SCHEME | AOS |
|---|---|---|---|
| Calculate | 2 | Points Based | AO2 |
| Draw | 4 | Points Based | AO1, AO2 |
| Explain what is meant by<br>Explain the term<br>Explain two characteristics | 4 | Points Based | AO1, AO2 |
| Explain why<br>Explain how<br>Explain the likely impact<br>Explain and illustrate | 4 | Points Based | AO1, AO2, AO3 |
| Analyse | 6 | Points Based | AO1, AO2, AO3 |
| Examine | 8 | Points Based | AO1, AO2, AO3, AO4 |
| Discuss | 14 | Levels Based | AO1, AO2, AO3, AO4 |
| Evaluate/To what extent | 20 | Levels Based | AO1, AO2, AO3, AO4 |



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In a private limited company the other shareholders usually have to agree who can buy the shares and they can therefore only be sold to family and friends. There may be restrictions on the number of shares that can be held by any one shareholder. In some countries a private limited company will have 'Ltd' after its name while in other countries it will have 'Pvt Ltd' after its name.

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There are three main types of co-operative:

- Consumer co-operative: owned by consumers who buy goods or services from their co-operative
- Producer co-operative: owned by producers of commodities or crafts who work together to process and market their products
- Worker co-operative: owned and democratically governed by employees who become co-op members.

India has many co-operatives, mainly based in agriculture and banking. These co-operatives cover such products as flour, cotton, sugar, milk, fruit and nuts as well as banking services. The co-operatives are at local, regional, state and even national level.

## STATE-OWNED ENTERPRISES (PUBLIC SECTOR)

**State-owned enterprises (SOEs)** are large organisations that are created by a country's government to carry out commercial activities. The business enterprise may be owned in full or in part by the state. However, the state will have significant control over the business. It has a separate legal identity and operates as a commercial enterprise. The profit is paid to the government. SOEs can take slightly different forms and there are many examples in countries across the world today, for example Emirates and Etihad airlines.

State-owned enterprises are very important in many countries, such as the UAE, China, India and South Africa. The SOEs are often in key sectors such as energy, water, transport (air, rail, freight, and pipelines), banking and telecommunications.

## FOR-PROFIT AND NOT-FOR-PROFIT ORGANISATIONS

Most private sector business organisations have profit as at least one of their objectives, even if the aim is not to maximise profit. However, there are a few private sector organisations that are **not-for-profit organisations**. They are organisations that do not have making a profit as a goal; instead, they use any profit or surplus they generate to support their aims. They include charities, ranging from international organisations such as Save the Children and the Red Cross to a local charity that distributes food to the poor or a local religious group that helps local people in need. The Federal Ministry of Social Affairs (MoSA) regulates charitable activities and fund raising in the UAE. In other countries there are similar regulators for charities and other not-for-profit organisations to ensure they are operated correctly.

## ACTIVITY 1

SKILLS: REASONING

### CASE STUDY: TYPES OF BUSINESS ORGANISATION

1 What type of business is each of the following? Justify your choice.
   (a) Apple Inc.
   (b) Ceylon Electricity Board
   (c) CBL Bangladesh (Pvt) Ltd
   (d) Hindustan Unilever Limited
   (e) Varanasi Motors Private Limited
   (f) Astro Malaysia Holdings
   (g) Kim's Café
   (h) Jasmine and Kevin's Flower Shop
   (i) Small grocery shop in Male, Maldives
   (j) Royal Dutch Shell plc

## ACTIVITY 2

SKILLS: COMMUNICATION, ANALYSIS, INTERPRETATION

### CASE STUDY: CHARITIES

1 Research not-for-profit organisations that operate in your local area. What is the main aim of each of the organisations you have identified?
2 Are there any social enterprises in your local area? If so, how do they operate?

Also included in this category are community organisations and social enterprises that are run as businesses but whose objective is to benefit members and trade in socially responsible ways.

## JOINT VENTURES

A **joint venture** is where a separate business entity is created by two or more parties. It involves sharing ownership, returns and risks of the new project or other business activity for which the joint venture was initially set up. A joint venture is set up so both parties can see advantages. The agreement may be for a specific project, such as to share resources to develop a new product. It could also be to share ideas to advance understanding between two parties, as when a university sets up partnerships with universities in other countries. For example, The Shanghai Nottingham Advanced Academy (SNAA) is a joint venture between The University of Nottingham, in the UK, and East China University of Science and Technology. It will deliver joint courses in Shanghai with periods of study in Nottingham.

Joint ventures are often set up between a global business that wants to expand into a new market and a local business that has knowledge of that market. The global business may have little understanding of the culture of the market it wishes to enter and so by forming a joint venture the global business may have a more successful entry into this market. The local company may gain business knowledge of how to improve its efficiency by working with this global company. There have been many joint ventures involving Western global businesses wanting to enter the Chinese and Indian markets, such as Chery Jaguar Land Rover Automotive Company, set up in China between Chery Automobile Co. and Jaguar Land Rover to be the leading premium automotive company in China.

Some governments will only allow a foreign company to set up in their country through joint ventures. This is designed to prevent **exploitation** of the country's resources and its people and to ensure there is a transfer of knowledge. It is also often designed to improve the distribution of income and wealth in the country. A joint venture will allow domestic firms to gain income and wealth from the foreign company.

## THINKING LIKE AN ECONOMIST

### CO-OPERATIVE MOVEMENT AND CO-OPERATIVE SOCIETIES IN INDIA

Co-operative Societies are independent associations of workers united voluntarily to meet their joint economic needs through a jointly-owned enterprise which is run on democratic principles. Many Indians work in agriculture and the country laid the foundations for the world's largest co-operative movement. The need for profit is balanced against the needs of the members and the wider interests of the community. The Co-operative Movement was started by the weaker sections of society to protect its members from being exploited.

Co-operatives play a very important role in India because they are organisations for the poor, illiterate and unskilled people. The importance of the co-operative sector for India is given below:

- It provides agricultural loans and funds where state and private sectors have not been able to do very much.
- It provides important inputs for the agricultural sector; consumer societies meet their consumption requirements at reduced rates.
- It helps to overcome the limits of agricultural development.

These are some of the larger co-operatives in India:

- Aavin (the trademark of the Tamil Nadu Co-operative Milk Producers' Federation Limited)
- Adarsh Co-operative Bank
- Amul (considered one of the largest co-operatives of India today)
- Anyonya Co-operative Bank Limited
- Horticultural Producers' Cooperative Marketing and Processing Society.

## CHECKPOINT

1 What is the difference between a business in the private sector and one in the public sector?

2 Identify the different types of business organisation found in the private sector.

3 What is meant by a state-owned enterprise?

4 Give an example of a not-for-profit organisation.

5 Why do businesses form joint ventures?

## SUBJECT VOCABULARY

**co-operative** a firm owned, controlled and operated by a group of users, such as the workers, for their own benefit. They each contribute by buying shares in the co-operative but have control of the firm on the basis of a one-member, one-vote principle rather than having votes in proportion to the number of shares owned, i.e. one-share, one-vote

**dividends** a share of the profit of a company that is distributed to its shareholders according to the number of shares held by them

**exploitation** the act of using resources or a person's labour without offering adequate compensation

**for-profit organisations** organisations that have making a profit as a goal

**joint venture** where a separate business entity is created by two or more parties. It involves sharing ownership, returns and risks of the new project or other business activity for which the joint venture was set up

**limited company** a type of business organisation where the owners are its shareholders, i.e. those who have bought a part of the business by buying shares in the company; it offers limited liability or legal protection to the shareholders as the company and its owners are legally separate

**not-for-profit organisations** organisations that do not have making a profit as a goal but may use any profit or surplus they generate to support their aims

**partnership** a type of business organisation where two or more people own the business

**private sector organisations** organisations that are owned by individuals or companies and not the state

**shareholder** any person or company that owns one or more shares in a limited company

**sole trader or sole proprietor** a business owned and controlled by one person

**state-owned enterprises (SOEs)** large organisations that are created by a country's government to carry out commercial activities

**unlimited liability** the owners of the business are personally liable for its debts and may have to sell personal assets to pay for them

# EXAM PRACTICE

## AIRASIA PLANS A JOINT VENTURE TO BRING LOW-COST MODEL TO CHINA

SKILLS ANALYSIS, INTERPRETATION, CRITICAL THINKING

AirAsia, the Malaysian low-cost airline, is planning to enter China in a joint venture with the government of Henan province and Everbright, the state-owned enterprise. This is one of the last markets that does not have budget airlines.

Under the proposal, AirAsia and its Chinese partners would establish a budget airline, pilot training centre and aircraft maintenance facility in Zhengzhou, the capital of Henan. The joint venture is likely to face opposition from China's three dominant state-owned airlines.

China is forecast to overtake the US as the world's biggest air travel market by 2024 but budget airlines have hardly managed to enter the market so far because of the dominance of the big three state-owned enterprises: Air China, China Eastern Airlines and China Southern Airlines.

Low-cost airlines such as AirAsia and China's Spring Airlines control less than 10 per cent of the Chinese market, compared to 56 per cent in Southeast Asia, 40 per cent in Europe and 32 per cent in the US, according to AirAsia. While China may be a very profitable market, analysts have warned that it is a risky market for AirAsia. Unlike Europe, which has an integrated air travel market, most Asian nations stop foreign investors from majority ownership of airlines. That has required AirAsia to agree to financially complicated and politically delicate joint ventures with the government and Everbright to expand beyond its home market.

China is suffering a severe pilot shortage, it has been said, which explains why AirAsia intends to build its own flight school in Zhengzhou. Unlike the (arguably inefficient) state-owned enterprises that AirAsia faced in Southeast Asia over the last 15 years, China's 'big three' airlines have large fleets of the latest, most fuel-efficient aircraft and are likely to use predatory pricing and their political influence to stop AirAsia.

Q

1 Define 'state-owned enterprise'. **(2 marks)**

2 Explain why the three main airlines in China will be against the joint venture. **(4 marks)**

3 Analyse the likely impact of the joint venture on customers in China. **(6 marks)**

4 Discuss whether a joint-venture is necessary for AirAsia to enter the Chinese market for low-cost air travel. **(14 marks)**

# 2 SIZES OF BUSINESSES

UNIT 3
3.3.1

## LEARNING OBJECTIVES

- Understand there are different sizes of businesses and the ways businesses grow
- Understand the advantages and disadvantages of each type of merger/takeover
- Understand the constraints on business growth, including the size of market, access to finance, owner objectives and government regulation and bureaucracy
- Understand the reasons for some firms remaining small and others growing
- Understand the impact of growth of firms on businesses, workers and consumers
- Understand the reasons for demergers and the impact of demergers on businesses, workers and consumers

## GETTING STARTED

Use the internet to find out about a recent merger or takeover. What did the two (or more) firms produce? What were the reasons given for the merger? Is it likely to create a business with a higher value measured by its share price?

## THE SIZE OF BUSINESSES

Although production in many economies is dominated by large firms, there are many industries where small and medium-sized enterprises (SMEs) are important.

SMEs are independent firms, not owned by another firm, which employ fewer than a given number of employees. This number varies between countries. The most frequently used classification for an SME is one that employs fewer than 250 employees – this is the measure used by the European Union. However, financial assets are also used as part of the definition and an SME should have an annual turnover of not more than €50 million, and/or an annual Statement of Financial Position not higher than €43 million.

A large corporation, by EU definition, is one that has more than 250 employees, an annual turnover of more than €50 million and/or a Statement of Financial Position of €43 million or higher.

Large firms exist for two main reasons:

- Economies of scale (explained in Chapter 6) in the industry may be significant. Only a small number of firms producing at the minimum efficient scale of production (explained in Chapter 6) may be needed to satisfy total demand.
- Barriers to entry (explained in Chapter 9) may exist which protect large firms from potential competitors.

Small firms survive for the opposite reasons:

- Economies of scale may be very small relative to the market size. A large number of firms may be able to operate at the minimum efficient scale of production. Small firms may also be able to take advantage of the higher costs of larger firms in the industry caused by diseconomies of scale (explained in Chapter 6). Changing technology, such as the internet, can allow small firms the same cost advantage as large firms in reaching out to customers, especially in small **niche markets**.
- The costs of production for a large-scale producer may be higher than for a small firm. In part, this may be due to productive inefficiency – a large firm operating within its average cost curve boundary (explained in Chapter 8). For instance, larger firms may be poorly organised in what they see as small insignificant segments of the market (called market niches) or X-inefficiency (explained in Chapter 8) may be present. Equally, the average cost curve of a large producer may be higher in certain markets than for a small producer. For instance, a large firm may be forced to pay its workers high wages because it operates in formal labour markets, i.e. it is organised and registered to pay tax. A small firm may be able to pay relatively low wages in informal labour markets, i.e. those that are not recognised by the government and do not pay tax. Indeed, owners of small companies can work very long hours at a rate of pay per hour which they would find totally unacceptable if in a normal job.
- Barriers to entry may be low. The cost of setting up in an industry, such as the food retail industry, may be small. Products may be simple to produce or sell. Finance to set up in the industry may be readily available. The product sold may be relatively homogeneous. It may be easy for a small firm to produce a new product and establish itself in the market.
- Small firms can be monopolists. A monopolist (explained in Chapter 13) offers a product for sale which is available from no other company. Many small firms survive because they offer a local, flexible and personal service. For instance, a

small local shop may have a monopoly on the sale of newspapers, magazines, greetings cards, toys and stationery in a local area. Consumers may be unwilling to walk half a mile extra to buy greetings cards at a 10 per cent discount or travel 10 miles by car to a local superstore to buy a $2 toy at a 25 per cent reduction. Or the small local shop may also be a food store, open until 10 o'clock at night seven days a week, again offering a service which is not offered anywhere else in the area. A small shop could be the only place locally where credit is offered, or where it is possible to buy a single item instead of a pack of six. Equally in the case of some products, such as cricket balls, the size of the market is so small that one or two very small firms can satisfy total demand.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS

### CASE STUDY: SIZE OF BUSINESS

1 Why can small firms survive successfully in the hotel industry?
2 What advantages do large hotel chains enjoy over small independent hotels?

## HOW BUSINESSES GROW

Firms may grow in size in two ways:

- by **organic growth**
- by external growth through **merger** or **takeover**.

Organic growth simply refers to firms increasing their output, for instance through increased investment or an increased labour force. A merger is the joining together of two or more firms under common ownership. The boards of directors of the two companies, with the agreement of shareholders, agree to merge their two companies together. A takeover implies that one company wishes to buy another company. The takeover may be amicable. Company X makes a bid for company Y. The board of directors considers the bid and finds that the price offered is a good price for the shareholders of the company. It then recommends the shareholders to accept the offer terms. However, the takeover may be contested. In a hostile takeover, the board of directors of company Y recommends its shareholders to reject the terms of the bid. A takeover battle is then likely to happen. Company X needs to get the shareholders to agree to sell just over 50 per cent of the shares to take control.

Economists distinguish between three types of merger:

- **Horizontal integration** is a merger between two firms in the same industry at the same stage of production, for instance, the merger of two car manufacturers or two bakeries.
- **Vertical integration** is a merger between two firms at different production stages in the same industry. **Forward vertical integration** involves a supplier merging with one of its buyers, such as a car manufacturer buying a car dealership, or a confectionary manufacturer buying candy/sweet shops. **Backward vertical integration** involves a purchaser buying one of its suppliers, such as a drinks manufacturer buying a bottling manufacturer, or a car manufacturer buying a tyre company.
- **Conglomerate integration** is the merging of two firms with no common interest. A tea company buying an insurance company, or a food company buying a clothing chain would be conglomerate mergers.

## ADVANTAGES AND DISADVANTAGES OF EACH TYPE OF MERGER/TAKEOVER

There are advantages and disadvantages to firms growing organically or through different types of integration.

Initially, almost all growth of firms is organic. This is because almost all firms start small. Vertical, horizontal and conglomerate integration through mergers and takeovers is associated with medium-sized and large firms. Merging with or taking over another firm is expensive and time-consuming. Mergers and takeovers are high risk and evidence suggests that most fail in the sense that they reduce the long-term share price of the company. For mergers and takeovers to succeed there should be some sort of strategy for the growth of the firm. Taking on an extra worker, renting the shop next door to expand premises or buying an extra machine are much easier than targeting another firm for expansion. Even with medium-sized and large firms, organic growth is the norm and integration through mergers and takeovers is the exception.

However, sometimes another firm has a market or an asset that it would be difficult or impossible to gain through organic growth. For example, a European company may wish to expand into the Asian market but has no expertise in this market. It might be cheaper and far less risky to buy a company selling into the Asian market rather than try to achieve this through organic growth. Organic growth may also be too slow for directors and managers who wish to maximise their salaries and bonuses from the business.

The easiest way to expand rapidly and justify higher pay is through mergers and takeovers.

## VERTICAL INTEGRATION

There are several possible advantages of vertical integration:

- There may be cost savings. Integrating a supplier or a buyer into the firm may make the firm more efficient.
- Vertical integration may reduce risk. For example, a supplier might have a technology that it could offer to rival firms, giving them a competitive advantage. A supplier might unexpectedly refuse to sell its product to the firm. Alternatively, a buyer could decide to buy from another firm.
- Forward vertical integration could give a firm more control over its market. For example, if a firm owned another firm that bought its products, it could decide at what price to sell the product and in what markets. It could better control branding of the product.

There are a number of disadvantages to vertical integration:

- A firm making a vertical merger may have little expertise in that particular industry. For example, a motor manufacturing company might, over many years, have developed a deep knowledge of motor manufacturing. However, it is unlikely to have that same level of knowledge in selling cars. If the motor manufacturing company buys a chain of car dealerships, to sell its cars to the public, it is likely that the car dealership part of the business will perform much worse than the core motor manufacturing business. The more distinct parts there are to a business, the less likely it is that senior management will be able to get the best out of every part of the business.
- Firms often pay too much for the firm they take over and the share price of the firm falls rather than rises.
- There can be difficulties in merging two firms together into one firm. Either the costs of creating a single firm from two separate firms are too great, or the two firms fail to integrate but costs rise because extra layers of management are needed to control the new, larger firm.
- Many of the key workers in the firm that has been taken over may leave, taking with them much of the expertise that made it successful.

## HORIZONTAL INTEGRATION

Most mergers and takeovers are examples of horizontal integration. At the small firm level, an example would be a hairdresser buying a second hairdressing business. At an international level, it might be one pharmaceuticals company buying another pharmaceuticals company.

Horizontal integration has a number of advantages for the firm:

- It may allow reductions in average costs due to economies of scale.
- It can reduce competition in the market by removing a competitor.
- The firm has an increased ability to control prices in the market.
- It can allow one firm to buy unique assets owned by another company, such as a new drug or operations in another part of the world.
- It allows a business to grow in a market where it already has knowledge and expertise. This is likely to make the merger more successful.

Despite the many advantages of horizontal integration, evidence suggests that most horizontal mergers are not successful. As with vertical integration, firms often pay too much for the firm they are buying. Integration of the two firms is too often badly managed and many of the key workers may leave following the takeover.

## CONGLOMERATE INTEGRATION

There are several advantages of conglomerate integration:

- One advantage is to reduce risk. Buying another firm operating in a completely different market means that a firm is not so dependent on the ups and downs of one market.
- A conglomerate may find it easier to expand compared to a situation where the companies or operations are independent. Size gives a conglomerate more options to obtain finance to expand the business. Successful senior managers can be transferred from company to company depending on their need.
- It could be an opportunity for **asset stripping**. Some companies specialise in buying other companies which they see as having more valuable individual assets than the purchase price of the company. For example, a company might be bought for $100 million. It is then broken up. Most of its land holding might be sold for $60 million, a part of the company is sold for $30 million and some patents are sold for $20 million. What is then left of the company might be kept, sold on or simply closed down.

One disadvantage of conglomerate integration is that firms do not have expertise in the market into

## ACTIVITY 2

SKILLS REASONING

### CASE STUDY: GROWTH BY TAKEOVERS

Robert Forrester is chief executive of the fast-growing UK motor dealer, Vertu. He learned about the business of selling cars by being a group finance director for Reg Vardy, the Sunderland based motor dealer. In 2006, Reg Vardy was taken over by Pendragon and Mr Forrester lost his job.

He decided to set up his own car dealer company. He realised that he could not challenge the big, long-established companies in the sector by setting up just another small, privately owned dealership. Instead, his strategy was to grow through buying up existing businesses. He assembled a team of former Reg Vardy executives and persuaded City of London investors to invest £25 million in a new, publicly quoted company. Mr Forrester himself invested £400,000. Vertu Motors floated on AIM (the Alternative Investment Market based in London) in December 2006.

Its first deal was the £40 million takeover of Bristol Street Motors Group, which had sales of £576 million. The purchase was funded through the initial £25 million raised a year earlier and a further £26 million sale of shares.

When the recession struck in early 2008, car values dropped 5 per cent in a month. With £20 million worth of stock, the company suffered an overnight loss of £1 million on the value of the cars it held. However, the company survived. The recession also provided a good buying opportunity for Vertu.

Car dealerships fell in price and Vertu accelerated its acquisition-buying programme. In 2009, it raised a further £300 million by selling new shares to fund more purchases.

Today, Vertu has over 5000 employees and 128 car dealerships across England and Scotland. Sales were £2.8 billion in 2018 with pre-tax profit approaching £25 million.

1 What is meant by horizontal integration? Use Vertu as an example.
2 Give two constraints on business growth that Vertu might have experienced.
3 Would Vertu have been more successful if it had grown organically rather than through takeovers? Give reasons for your answer.

which they buy. As with vertical integration, a lack of specialist understanding of the market can reduce performance. As for asset stripping, it provides a quick profit for the asset stripper. It doesn't benefit workers, customers or local economies. Workers lose their jobs. Customers might find they are no longer able to buy products which they value. Local economies can end up with fewer jobs and disused industrial sites. As with vertical integration, firms engaging in conglomerate integration often pay too much for the firm they are buying. Integration of the two firms is too often poorly managed and many of the key workers may leave following the takeover. Moreover, resources of the business and the time and effort of senior managers may be spread too thinly over the range of activities the business is involved in.

## CONSTRAINTS ON BUSINESS GROWTH

There are a number of different constraints on business growth, including the following.

### SIZE OF THE MARKET

Markets vary in size. Some local markets are very small. Take the example of a flower shop in a large village in rural Spain. The local market may be able to support the business adequately with customers coming from surrounding villages. However, expanding the business, for example by opening a new shop in the next village, may fail because there are not enough customers in the market in the two villages. Equally, national and international markets can be relatively small. The market for cricket balls, for example, is much

smaller than the market for coffee. The opportunities for expansion in the cricket ball market are very limited in comparison to the coffee market.

### ACCESS TO FINANCE

To expand, firms need access to finance. Most firms expand by using the profit they have made in previous years and putting this back into the business. However, firms also commonly use loans and overdrafts from banks to finance their expansion. This depends on banks being willing to give them a loan. For medium-sized and large firms, they may be able to obtain equity funding. In a limited company, new shares are sold to investors. If the company is a public limited company, second-hand shares will be bought on a stock exchange, like Abu Dhabi Securities Exchange (ADX) that lists mostly UAE companies and NASDAQ Dubai that lists international companies. However, companies only gain the finance from a share issue when it is the new issue of these shares; the rest of the time shares are traded the finance does not go to the company, it simply allows shares to change ownership. However, being able to sell shares does make it easier to raise the initial finance from investors.

### OWNER OBJECTIVES

Not every owner wants to grow a firm. Owners can have many objectives. They may be happy with the profit they are currently making and not wish to have the extra work or the extra risk that comes from growing the business.

### REGULATION

Most firms are able to expand their businesses without any interference from government. However, government regulation can be an important factor in a few cases. For example, EU Merger Regulation prohibits mergers and takeovers which would significantly reduce competition in the EU Single Market, for example if they would create dominant companies that are likely to raise prices for consumers. The EU authorities only examine larger mergers with an EU dimension, meaning that the merging firms reach certain turnover levels. For large companies, competition law can restrict the scope for takeovers and mergers. Any merger which creates a company with a combined worldwide turnover of all the merging firms over €5000 million and an EU-wide turnover for each of at least two of the firms over €250 million would be reported to the Commission. It can investigate the merger and has the power to forbid it. About 300 mergers are typically notified to the Commission each year in the EU.

## REASONS SOME FIRMS TEND TO REMAIN SMALL AND OTHERS GROW

It is suggested that profit maximising companies are motivated to grow in size for a number of reasons.

- A larger company may be able to exploit economies of scale more fully. The merger of two medium-sized car manufacturers, for instance, is likely to result in potential economies of scale in all fields, from production to marketing to finance. Vertical and conglomerate mergers are less likely to yield economies of scale because there are unlikely to be any technical economies. There may be some marketing economies and more likely there may be some financial economies.
- A larger company may be more able to control its markets. It may therefore reduce competition in the market place in order to be better able to exploit the market as its price-setting power is increased.
- A larger company may be able to reduce risk. Many conglomerate companies have grown for this reason. Some markets are unreliable. They are subject to large changes in demand when economies go into boom or recession. A steel manufacturer, for instance, will do exceptionally well in a boom, but will be hard hit in a recession, so it might decide to diversify by buying a company with a product which does not have a demand pattern that changes in different parts of the economic cycle, such as a supermarket chain. Other industries face a very uncertain future, such as the newspaper industry (which faces falling revenues due to the rise of digital media) so newspaper companies may merge or be taken over by other companies to reduce the risk of failure.
- Where there is a divorce of ownership from control, a larger company may justify higher salaries and bonuses to directors and managers. Since it is directors and managers who run the firm, they can take decisions about the size that will benefit them, but not necessarily bring any benefit to shareholders.

While some firms grow large others remain small. This is due to many reasons, such as:

- The owners want the business to remain small and do not want to have the increased risk from operating a larger firm or take unnecessary risks with personal finance.
- The firm may operate in a niche market and so demand may be too low to expand.

- The firm may offer a personal service, where loyal customers know the owners. Such customers may go elsewhere if the business grows.
- The owners may lack the expertise and finance to expand and are happy to remain small.

## IMPACT OF GROWTH OF FIRMS ON BUSINESSES, WORKERS AND CONSUMERS

**Businesses** will benefit from a merger if economies of scale lead to greater efficiency. If firms are able to cut costs or develop new and innovative products, their profits should rise. Greater efficiency will also enable firms to survive greater competition in their markets. However, if the merger leads to diseconomies of scale and inefficiency then profits are likely to fall.

**Workers** may benefit or lose out following a merger. Some workers may gain promotion in the new, larger firm while others might lose their jobs. For example, if only one senior financial director is required in the new firm, the financial director from the first firm may be promoted while the financial director from the firm that has been taken over is made redundant or moved to another job. If the new, larger business is more successful then higher wages may be paid.

**Consumers** may benefit or lose out following a merger. They will gain if the merged firms become more efficient, cut costs and offer lower prices. They could also gain if the merged firms invest more and develop new and innovative products. Consumers will lose out if the merger reduces the number of firms in the market and there is less choice. If market share increases for the newly formed company, there is the possibility of prices increasing if there is less competition.

## REASONS FOR DEMERGERS

A **demerger** occurs when a firm splits itself into two or more separate parts to create two or more firms. The new firms may be of roughly equal size. Sometimes, though, the term is used to describe the sale of a small part of a business to another business. Demergers occur for a variety of reasons:

### LACK OF SYNERGIES

Management may feel that there are no **synergies** between the parts of the firm. This means that one part of the firm is having no impact on the more efficient and profitable running of the other part of the firm. Where there are no synergies, there could even be diseconomies of scale because senior management are having to divide their time between two or more businesses which have little to do with each other.

### VALUE

The price of the demerged firms might be higher than the price of the single larger firm. For example, a firm may be valued at $300 million on a stock exchange. But if it split into two, the new firms might be valued at $150 million and $250 million. Investors in companies base valuations on a variety of different factors but one of them is the growth prospects of a firm. If a firm has a part which is growing fast, that part will be worth more than another part of equal size which is growing more slowly. The relatively poor performance of one part of a company can drag down the share price of the whole company despite the fact that other parts are performing well. Financial markets talk about 'creating value' by splitting up companies in this way.

### FOCUSED COMPANIES

In the 1970s, it was fashionable to create conglomerates to diversify risk. In recent years, it has become popular to create firms which are highly focused on one or just a few key markets. The argument is that management can deliver higher profits and growth by concentrating their energies on getting to know and exploiting a limited range of markets. Evidence also suggests that being the market leader in terms of sales tends to be relatively more profitable than being, say, number three or four in the market. Companies therefore divest themselves of (i.e. sell off) parts which do not fit in with their core activities. Sometimes, a firm will sell off a part cheaply which goes on to be very successful. It could be argued that the firm's management sold the part too cheaply. Equally, this can be seen as evidence that a company has only limited management resources. The part sold off would never have been successful within that particular firm because management did not have the time or expertise to make it succeed.

## IMPACT OF DEMERGERS

Demergers can have an impact on businesses, workers and consumers.

**Businesses** will benefit from a demerger if the increased specialisation that results leads to greater efficiency. If firms are able to cut costs or develop new and innovative products, their profits should rise. Greater efficiency will also enable firms to survive greater competition in their markets. Firms will lose out if the demerger leads to more inefficiency. If the demerged firms are run less well than when they were one single firm, then profits are likely to fall.

**Workers** may benefit or lose out following a demerger. Senior managers may gain promotion. For example, one firm only needs one senior financial director. If it splits into two, each firm will need its own senior financial director. On the other hand, some workers may lose their jobs following a demerger. If each firm becomes more efficiently run as a result of the demerger, then some job losses are likely.

**Consumers** may benefit or lose out following a demerger. They will gain if the demerged firms become more efficient, cut costs and offer lower prices. They could also gain if the demerged firms invest more and develop new and innovative products. Consumers will lose out if the demerged firms become more focused on increasing profit in their businesses through raising prices or reducing their product ranges.

## ACTIVITY 3

SKILLS REASONING

### CASE STUDY: DEMERGER

eBay Inc is to be split into two companies. It owns eBay, the online auction site and PayPal, a payments business.

For some time, the company has come under pressure from some shareholders to sell PayPal. They argue that eBay and PayPal would be worth more as two separate companies. This is because the two businesses have different growth rates and profit rates. PayPal is the star performer, with revenues up 20 per cent. eBay is highly profitable but it is forecast to grow only between zero and 5 per cent in the next few years.

Some analysts have questioned whether eBay, the auction site, will be as profitable without PayPal. Currently, eBay uses information about customer purchases made from other internet sites when these purchases are made using PayPal. Without PayPal, it will have less information about the buying behaviour of its customers. This will make it more difficult to target eBay users with information about what they could buy on the site.

1 Why might eBay demerge with PayPal?
2 To what extent is the demerger likely to lead to higher growth for each of the businesses?

## THINKING LIKE AN ECONOMIST

### MCDONALD'S STEPS UP EXPANSION IN ASIA AND RUSSIA

McDonald's has mainly expanded by organic growth. It was originally founded in America by the McDonald brothers in 1940. It grew by using a franchise model to expand organically across America. In the first few decades it established itself across America but from the 1970s onwards it began to open restaurants in several other countries. The American market had become saturated (where so much of a product is offered for sale that there is more than people want to buy) and if McDonald's wanted to continue to expand it needed to move into other markets. It now has restaurants across most countries in the world and has kept its own brand identity, not growing by taking over other companies.

An example of its growth is its plans to open more than 1500 restaurants in China and South Korea with local partners between 2017 and 2022, as it focuses on expansion in the world's second-biggest economy. There are many difficulties in expanding into a market such as China. However, local partners will help make business decisions that are suitable for Chinese customer tastes while increasing funds available for investment needed. Once the outlets are opened, McDonald's, the world's largest fast-food chain by sales, will have more than 4300 restaurants across the two countries, 54 per cent more than the 2800 it had in 2017.

McDonald's is also opening 20 new restaurants in Russia, as it aims to expand its business in this market as well. It has signed an agreement with local company GiD, which will extend McDonald's restaurants into western Siberia. It is hoped that the agreement with GiD will help enhance the McDonald's brand in Russia, build a successful business over the long term and further strengthen the relationship with its customers.

## CHECKPOINT

1 What is the difference between SMEs and large corporations?
2 What is the difference between organic growth and growth by merger or takeover?
3 What is the difference between forward vertical integration and backward vertical integration?
4 What is meant by horizontal integration?
5 What is meant by conglomerate integration?
6 Give the advantages and disadvantages of vertical integration.
7 Give the advantages and disadvantages of horizontal integration.
8 Give the advantages and disadvantages of conglomerate integration.
9 Why do some firms remain small while others grow?
10 How does the growth of firms affect businesses, workers and consumers?
11 What are the reasons for demergers?
12 What is the impact of demergers on businesses, workers and consumers?

## SUBJECT VOCABULARY

**asset stripping** the practice of buying a company cheaply and then selling all the things it owns to make a quick profit

**backward vertical integration** a joining together of two or more firms into one firm, where the purchaser merges with one or more of its suppliers

**conglomerate integration** a joining together into one firm of two or more firms producing unrelated products

**demerger** when a firm splits into two or more independent businesses

**forward vertical integration** a joining together of two or more firms into one firm, where the supplier merges with one or more of its buyers.

**horizontal integration** a joining together of two or more firms in the same industry at the same stage of production

**merger or takeover** the joining together of two or more firms under common ownership

**niche market** a market for a product or service, perhaps an expensive or unusual one, that does not have many buyers but that may make good profits for companies that sell it

**organic growth** a firm increasing its size through investment in capital equipment or an increased labour force

**synergy/synergies** when two or more activities or firms put together can lead to greater outcomes than the sum of the individual parts

**vertical integration** a joining together into one firm of two or more firms at different production stages in the same industry

# EXAM PRACTICE

## CELGENE

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

Pharmaceutical companies spend billions of pounds researching and developing new drugs. The problem is that very few of those drugs ever make it to market. Either they do not work well enough or they have significant side effects.

Large pharmaceutical companies may then be forced over the 'patent cliff' (when there is a huge fall in its revenue after the patent runs out). Many pharmaceutical companies rely on just one or a few 'blockbuster' drugs for most of their sales. Celgene, for example, a biotech company with a market value of almost $100 billion, is heavily reliant on sales of one drug, Revlimid. The drug accounts for 65 per cent of annual sales of the company. In 2019, it faces its own patent cliff when patents on Revlimid begin to expire. This means that any pharmaceutical company will be able to produce its own 'generic' copy of Revlimid and sell it to customers, usually for a fraction of the price of the original drug. Celgene could then see its sales fall dramatically in value and billions could be knocked off its share value.

Celgene has responded to this threat by buying up companies completely or in part, or entering into agreements with companies to share the costs and revenues of promising new drugs. For example, Celgene has spent $7.2 billion buying Receptos, a biotech company specialising in treatments for multiple sclerosis and inflammatory bowel conditions. In April, it paid $710 million to Nogra Pharma, a privately held Irish biotech company, to access its drug for Crohn's disease, a bowel disorder. The drug is still at the clinical trial stage and Celgene is hoping that it will make it to market. In 2018, Celgene bid to take over Juno and enter the new field of chimeric antigen receptor therapy (Car-T), which involves re-engineering a patient's white blood cells so they can identify and attack cancer. Celgene also announced it would pay $1.1 billion for Impact Biomedicines, another cancer company, in a transaction that could be worth up to $7 billion if the group's medicine is successful.

In all, over the past six and a half years, Celgene has taken minority stakes or struck agreements with more than 30 companies, as well as taking over two companies completely: Receptos for $7.2 billion and Abraxis for $2.9 billion.

George Golumbeski, senior vice-president of business development at Celgene, says the company has been pursuing what it calls a 'distributive model of research and development'. 'We consciously decided not to always grow our own R&D and that we would work as closely and actively as we could with smaller companies, who have an exquisite focus, a leanness and a superior, efficient output.'

It is unlikely that all of Celgene's takeovers will be successful, given that so many of the companies are focused on drugs that are still at an early stage of development. However, it only needs one or two to deliver a 'blockbuster' drug to prevent its sales from falling once Revlimid begins to go out of patent after 2019.

Q

1 Using pharmaceutical companies as an example, explain what it means for a firm to grow internally. **(4 marks)**

2 Analyse one advantage and one disadvantage to consumers of horizontal integration. **(6 marks)**

3 Analyse two possible reasons why Celgene has chosen to grow through a process of horizontal integration rather than to grow organically. **(6 marks)**

4 Evaluate whether it would be better for pharmaceutical companies, such as Celgene, to become conglomerates rather than remaining narrowly focused on selling pharmaceutical products. **(20 marks)**

### EXAM HINT

Evaluation for Question 4 will come from comparing the advantages and disadvantages of conglomerates using pharmaceutical companies as an example. Evaluation could also come from a discussion of the meaning of 'better'. What are the possible objectives of pharmaceutical companies and how might this affect their decisions?

# 3 BUSINESS OBJECTIVES

UNIT 3
3.3.1

## LEARNING OBJECTIVES

- Understand the different business objectives including profit maximisation, revenue maximisation, sales volume maximisation and behavioural theories
- Understand the formulae for the business objectives of profit maximisation, revenue maximisation and sales volume maximisation
- Understand the significance of the divorce of ownership from control for business objectives: the principal-agent problem

## GETTING STARTED

Identify a good or a service that you buy frequently. Who makes the product? What do you think might be their business objectives? Which business objective is the most important do you think?

## BUSINESS OBJECTIVES

LINK Student Book 1, Chapter 6

A **business objective** is a result that a firm aims to achieve. It forms part of the planning process for firms and will influence the pricing policies and the planned output for the firm. There are four main objectives discussed below:

- profit maximisation
- revenue maximisation
- sales volume maximisation
- profit satisficing: an example of behavioural theories.

## PROFIT MAXIMISATION

In neo-classical economics it is assumed that the interests of owners or shareholders are the most important. Just as consumers attempt to maximise their satisfaction and workers attempt to maximise their rewards from working, so shareholders will be motivated solely by maximising their gain from the company. Therefore it is argued that the objective of firms is to profit maximise.

Neo-classical economics assumes that firms aim to maximise short-run profits. This is achieved where marginal cost is equal to marginal revenue in the short term and determines the firm's level of production. In markets where there is heavy branding, such as soap powders, prices are likely to be stable. However, in commodity industries where firms are producing homogeneous goods such as copper, paper or wheat, prices are likely to be unstable. Short-run profit maximisation implies that firms will be prepared to supply even if they make a loss in the short run so long as price is above the average variable cost of production. In the long run, firms must cover all their costs or they will leave the market.

**Profit maximisation** occurs at the output where the difference between total revenue and total cost is the greatest, as explained in Chapter 7. Another way of expressing this is to say that a firm maximises profits when marginal cost equals marginal revenue (MC = MR).

Neo-Keynesian economists believe that firms maximise their long-run profit rather than their short-run profit. This is based upon the belief that firms use **cost-plus pricing** techniques. The price of a product is worked out by calculating the average total cost of operating at full capacity and adding a profit mark-up. The price set and therefore the profit aimed for is based upon the long-run costs of the firm.

Short-run profit maximisation implies that firms will adjust both price and output in response to changes in market conditions. However, according to neo-Keynesians, rapid price adjustments may damage the firm's position in a market. Consumers dislike frequent price changes. Price cuts may be seen as a sign of panic selling and buyers of large quantities may respond by trying to negotiate even larger price reductions. Price increases may be interpreted as a sign of profiteering (making unfairly large profits, especially by selling things that are very difficult to get at very high prices) with consumers switching to other brands in the belief that they will get better value for money. Price changes also involve costs to the company because price lists need to be changed, sales staff informed, advertising material changed, etc. Therefore it is argued that firms attempt to maintain stable prices while adjusting output to changes in market conditions.

This may mean that a firm will produce in the short run even if it fails to cover its average variable cost. If it takes the view that in the long run it may make a profit on production of a particular good, it may prefer to produce at a loss rather than disrupt supplies to the market. Alternatively, it may prefer to keep prices above the market price in the short run and sell

## ACTIVITY 1

SKILLS REASONING, COMMUNICATION, ANALYSIS

### CASE STUDY: TOP PROFITABLE SMALL BUSINESS IDEAS IN SRI LANKA IN 2018

Sri Lanka has mostly had strong growth rates in recent years. Therefore, this is said to be a good time to start a business in Sri Lanka. The following are some suggestions for new businesses:

- Agriculture – specific items like tea, rubber, and spices such as cinnamon are the most important products with good export potential. Farming of livestock such as cows and goats is also becoming more important
- Plant nursery – a small plant nursery which is a low-cost and profitable business
- Cell phone repair – cell phone sales are growing and people will be interested in a local repair service if the cost of the repair is reasonably low
- Retail – retail is another growing sector in Sri Lanka, however, the retail space should be in a good location, situated in a main shopping area, for example
- Tourism – this is one of the main sources of employment in Sri Lanka; hospitality and tourism provide different types of service, including restaurants, hotels, transportation, activities, and camping

1 What is the most likely objective for someone to start a small business?

2 Which of the ideas above do you think would be most profitable in your country? Give reasons for your choice.

nothing if it believes that price cutting in the short run would lead to a permanent effect on prices and therefore profits in the long run.

## REVENUE MAXIMISATION

One theory that uses the concept of **divorce of ownership from control** is the theory of **revenue maximisation**. In this theory, it is assumed that the objective of managers is to maximise total revenues for the firm, subject to a **profit satisficing** constraint. The larger the sales revenue of the firm, the higher is likely to be the pay and prestige of senior managers. A company that has twice the value of sales of another competing company would presumably pay its directors and managers more than its smaller rival. Revenue maximisation and the size of the company are, therefore, a way for managers to justify their rewards.

Total revenue will be maximised when marginal revenue is zero. Assume the firm is a monopolist and that the minimum level of profit that will satisfy shareholders is the level of normal profit. With a downward sloping marginal revenue curve, shown in Figure 1, selling an extra unit above OB will result in negative marginal revenue and therefore a fall in total revenue. (See Chapter 13 for an explanation of the diagram.) So OB is the revenue maximising output of the firm. This compares with the profit maximising level of output of OA, where MC = MR.

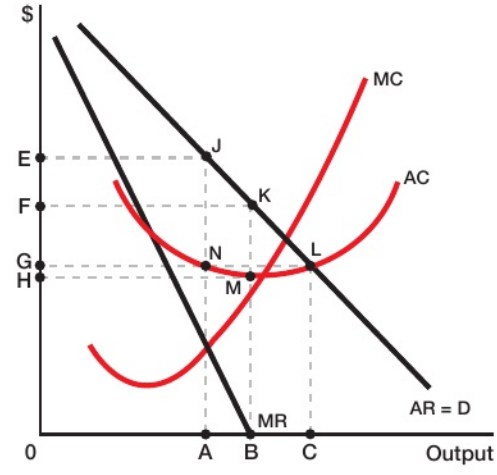
The price it charges will be determined by the demand curve facing the firm, which is also the average revenue curve. So it will charge OF. This is lower than the profit maximising price of OE. This is what should be expected. Facing a downward sloping demand curve, the firm can only sell more by lowering its average price.

At OB, the firm is making both normal and supernormal profit. It is making normal profit because this is included as part of costs, shown by the marginal and average cost curves. It is also making supernormal profit of HF per unit. HF is the difference between the average revenue at output OB and average cost, OH. It therefore makes supernormal profit of FKMH. This is smaller than the supernormal profit it would have made had it profit maximised, which is EJNG.

**FIGURE 1**

**Maximisation alternatives**

The profit maximising firm will produce at OA and price at OE. The revenue maximising firm will produce at OB and price at OF. The sales volume maximising firm will produce at OC and price at OG.



This analysis is also applicable to oligopolistic firms (see Chapter 12) where firms can make supernormal profits in the long run. It does not apply to firms in either perfect competition or monopolistic competition in the long run. In these market structures, firms can only earn normal profit in the long run. If we assume that normal profit is the profit satisficing level of output, then firms cannot operate at any other point but the profit maximising level of output.

## SALES VOLUME MAXIMISATION

An alternative theory is that firms aim for **sales volume maximisation**: the aim is to maximise the number of products they sell. As with revenue maximisation, it can be argued that sales volume is a measure of the size of a firm. Managers and directors can then justify the rewards they take from the firm by pointing to the sales they have achieved.

Assume that earning normal profit will satisfy the needs of the owners of the firms. Also assume that the firm is a monopoly or an oligopoly that can make supernormal profits in both the short and long run. The level of production where sales volumes are maximised is where average costs = average revenue (which is the same as where total costs = total revenue). In Figure 1, this is at the output OC where the AC curve cuts the AR curve. At this level of output, the firm makes normal profit because normal profit is part of cost. Any output beyond OC will be loss making because AC is above AR. So at any output level beyond OC, the firm will not even make normal profit breaking the profit satisficing assumption. Output is higher than the revenue maximisation output at OB and higher than that profit maximising output of OA.

The price at which the firm sells its good is OG. This is below both the revenue maximising price of OF and the profit maximising price of OE. At output OC, the firm makes no supernormal profits, compared to FKMH supernormal profits for the revenue maximiser and EJNG for the profit maximiser.

## FORMULAE FOR DIFFERENT BUSINESS OBJECTIVES

| | Level of output occurs* |
|---|---|
| Profit maximiser | MC = MR |
| Revenue maximiser | MR = 0 |
| Sales volume maximiser | AC = AR or TC = TR |

*assuming the firm profit satisfices where it just makes normal profit

▲ Table 1

## ACTIVITY 2

SKILLS PROBLEM-SOLVING

### CASE STUDY: BUSINESS OBJECTIVES

| Output | Total revenue $000 | Total cost $000 |
|---|---|---|
| 1 | 50 | 23 |
| 2 | 90 | 48 |
| 3 | 120 | 63 |
| 4 | 140 | 83 |
| 5 | 150 | 99 |
| 6 | 150 | 116 |
| 7 | 140 | 140 |
| 8 | 120 | 175 |

▲ Table 2

Table 2 shows the output, total revenues and total costs for a firm. The firm is a profit satisficer, wanting at least to earn normal profit on its output.

**1** Subject to this constraint, show, using a diagram, what would be:
   (a) the profit maximising level of output (profit which is both supernormal and normal profit)
   (b) the sales maximising level of output
   (c) the sales revenue maximising level of output.

## BEHAVIOURAL THEORIES: SATISFICING

Profit satisficing as an objective happens when the ownership of a business is separate from the control. The owners are likely to want to maximise profits but the managers and workers may not want this. The running of the firm is delegated to the managers and workers. The owners will employ managers to run the firm and expect them to maximise profit, leading to payment of maximum dividends. However, the owners will not have all the information about the managers' efforts and actions. The managers know this and they may do a 'good enough' job to make sufficient profits to satisfy the owners and keep them happy with the job they are doing. The owners will not be aware that the maximum profit is not being achieved.

According to behavioural theory, the firm does not aim to maximise profit but rather to achieve a certain minimum or 'target' level of profits. Its aspiration level is based on different goals – such as production, price, sales, profits, etc. – and on the firm's past experience.

Behavioural economics takes into account the many different factors that motivate people at work. Profit and bonuses are one factor but a sense of

achievement, recognition, responsibility and being part of the creative process can also be important. Therefore, managers may try to do the best job they can because they get more satisfaction from this and as a result maximise profits. However, managers may be tempted by different goals, such as working for a fast-growing firm and as a result they might take risks the owners don't really want.

## DIVORCE OF OWNERSHIP FROM CONTROL

In small firms, the owner or owners are likely to work in the firm. This is still true of many medium-sized businesses. However, in large businesses, owners are likely to appoint directors and managers to run the firm on their behalf. When this happens, there is a divorce of ownership from control. Most large firms are listed companies. Their shares are traded on stock exchanges. Sometimes, the original founders of the firm own a large percentage of the shares. However, the older the company, the more likely it is that the original founders will have sold most or all of their shares. Shareholdings are then likely to be split across many different people and organisations with the largest shareholder holding no more than 10 per cent of the shares.

The owners of a large firm are likely to want to maximise the returns on their investment in the company, in the form of dividends. Short-run profit maximisation is likely to achieve this.

However, it is far from obvious that directors and managers will share this objective. As employees of the company, neo-classical economic theory would predict that they would attempt to maximise their own rewards. These will include their own pay and bonuses. Fringe benefits, such as pension entitlements, company cars and free private medical care, are important too. So are less tangible rewards, such as power or the ability to distribute resources.

Making a profit must remain an important objective for directors and managers. They have to be seen to be efficient enough to make profits to justify their remuneration packages. Criticism from shareholders at shareholders' meetings or through the press has to be avoided. If profits are not high enough, there is the threat of a takeover by another company. If the firm makes losses, these could be high enough to force the company to cease trading. Directors and managers would then lose their jobs.

So directors and managers have to make enough profit to satisfy the demands of shareholders and the markets. Making enough profit, but not maximising profit, is known as profit satisficing. Once directors and managers have profit satisficed, they are then free to maximise their own rewards from the company.

In recent decades, the trend has been for companies to attempt to change the behaviour of directors and managers by rewarding them for achieving set outcomes. Bonuses can be linked to sales targets, profit targets or share price targets, for example. However, it is the directors and managers of companies who create these schemes. This is the equivalent of allowing workers to set their own rates of pay. Not surprisingly, the result has been a growing gap between the remuneration packages for senior managers and directors and the average wages of workers in the company.

The divorce of ownership from control is an example of the principal-agent problem. The principal-agent problem occurs when one group, the agent, is making decisions on behalf of another group, the principal. In theory, the agent should maximise the benefits for those whom they are looking after. In practice, agents always have the temptation to maximise their own benefits at the expense of those of the principals.

## THINKING LIKE AN ECONOMIST

### WHAT IS THE OBJECTIVE OF A UK BANK?

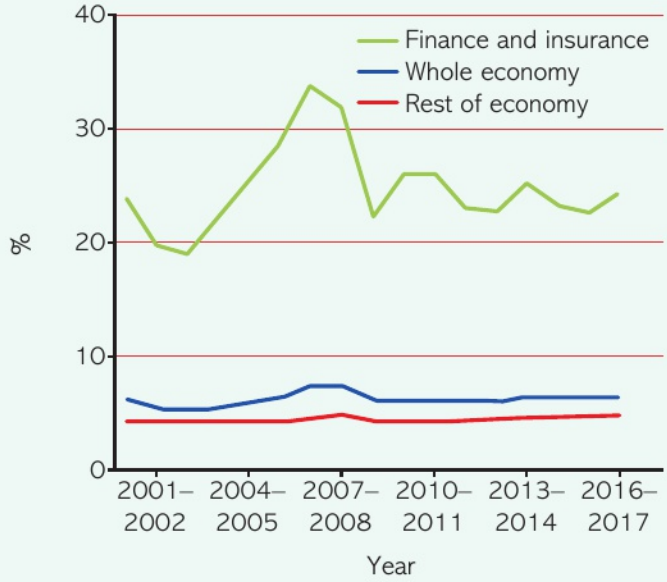
UK banks have been through difficult times since 2007. In 2007–08, they came close to insolvency (where they would have been unable to pay the money they owed on time). Two of the four major banks, Royal Bank of Scotland and Lloyds, were partly nationalised, becoming mostly owned by the UK government. Barclays and HSBC could not have survived without the government, through the Bank of England, paying large amounts of money into the banking system.

The banks are public limited companies, owned by shareholders. Shareholders appoint directors to supervise the running of the company, which is then given over to its managers.

Economic theory suggests that those shareholders want to see their returns maximised. This means some combination of maximum dividends (the shareholders' share of the profits) and maximum growth in the share price. However, any shareholder buying bank shares at the start of 2007 will have suffered a large loss. For example, Barclays' share price on 1 January 2007 was 659p. On 24 September 2018, it was 176p.

Economic theory also suggests that the principal-agent problem can prevent shareholders maximising their returns. The principal-agent problem in this case is that the directors and managers, whom shareholders appoint to run the company on their behalf, will try to maximise their own returns even if this means less for shareholders. The information about bank bonuses in Figure 2 illustrates the ability of employees of the bank to maximise their own rewards.

The higher the level of basic pay, the more likely it is that the employee will receive a bonus. So the bank cleaner won't receive a bonus, but the chief executive will be given a bonus typically worth millions of pounds a year. As Figure 2 shows, bonuses are a particularly important part of total pay in UK finance and insurance. Bonuses are justified as a reward for success. However, throughout the banking crisis of 2008–09 and beyond when banks were loss-making, bankers were still being paid large bonuses. So a different argument was used to justify the bonuses.




▲ **Figure 2 Bonuses as a percentage of total pay, financial year ending 2001 to financial year ending 2017 (%)**

It was argued that if they weren't paid, employees would leave the bank and get a job elsewhere, losing the bank even more money. Employees of the banks, therefore, were still able to reward themselves significantly, even when the shareholders, the owners, were suffering very large losses.

Bank executives might argue that their objective is to maximise profits for shareholders. The evidence suggests that they maximise sales or sales revenue, whichever will give them the greatest returns. It is easier to justify bonuses if banks are making a profit. But as events since 2007 have shown, huge losses have not prevented UK banks giving out thousands of millions of pounds in bonuses to their staff.

## CHECKPOINT

1. What is the difference between profit maximisation and revenue maximisation?
2. How is sales revenue maximisation different to sales volume maximisation?
3. Why would the directors of a firm have profit satisficing as their objective?
4. What type of firm has a divorce between ownership and control?
5. What type of firm has ownership and control by the same people?
6. What is the principal-agent problem?
7. What are the implications for a firm where there is a divorce between ownership and control?
8. What is the formula for a business to profit maximise?
9. How does a firm achieve revenue maximisation?
10. What formula allows a firm to achieve sales volume maximisation?

## SUBJECT VOCABULARY

**business objective** a result that a firm aims to achieve

**cost-plus pricing** the technique adopted by firms of fixing a price for their products by adding a fixed percentage profit margin to the long-run average cost of production

**divorce of ownership from control** occurs when the managers and directors of a business are a different group of people from the owners of the business

**profit maximisation** occurs when the difference between total revenue and total cost is greatest

**profit satisficing** making sufficient profit to satisfy the demands of owners, such as shareholders

**revenue maximisation** occurs when total revenue is highest and when marginal revenue equals zero

**sales volume maximisation** occurs when the volume of sales is greatest; when the objective of a firm, this is usually subject to a profit satisficing constraint

# EXAM PRACTICE

## FT REPORTS SMALL PROFIT UNDER NEW JAPANESE OWNERS

SKILLS: REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING

In 2017, The Financial Times reported a small profit for its first year under Japanese ownership, following its £844m takeover by the publisher Nikkei.

Accounts for The Financial Times Limited, show a pre-tax profit of £6.2m for 2016 on revenue of £310.7m. Sales were up 9 per cent from 2015, but profits were down sharply.

There was no dividend for Nikkei in its first year as the new owner of the 129-year-old newspaper. Over the course of the first year it invested more than £74m cash into the FT.

Nikkei bought the FT using very low interest bank loans of just 0.29 per cent. The Japanese financial publisher said it wanted to help turn the FT into a global newspaper, although in the first year there was little change in the newspaper's sources of income. The UK accounted for 44 per cent of the FT revenues, the same as in 2015, with Europe down slightly at 26 per cent of revenues and Asia and the Middle East on 11 per cent of sales, up from 9 per cent the previous year.

The FT's senior managers have remained in their jobs after the Nikkei takeover. The highest-paid director, understood to be chief executive John Ridding, received total compensation of £1.7m, an increase of £75,000 on the previous year. Meanwhile the overall FT wage bill came down by £6.5m to £81.4m.

Source: Williams, Christopher, FT reports small profit under new Japanese owners, © 2017, Used with permission from Telegraph Media Group Limited

Q

1 Which of the following would increase the profit of the FT? **(1 mark)**
   (a) Twice as many newspapers were sold after the price was reduced by 75%
   (b) Sales revenue fell by 10% and costs were reduced by 5%
   (c) Wage costs were reduced by 15% and revenue increased by 15%
   (d) Revenue from selling newspapers fell by 10% and costs were reduced by 10%

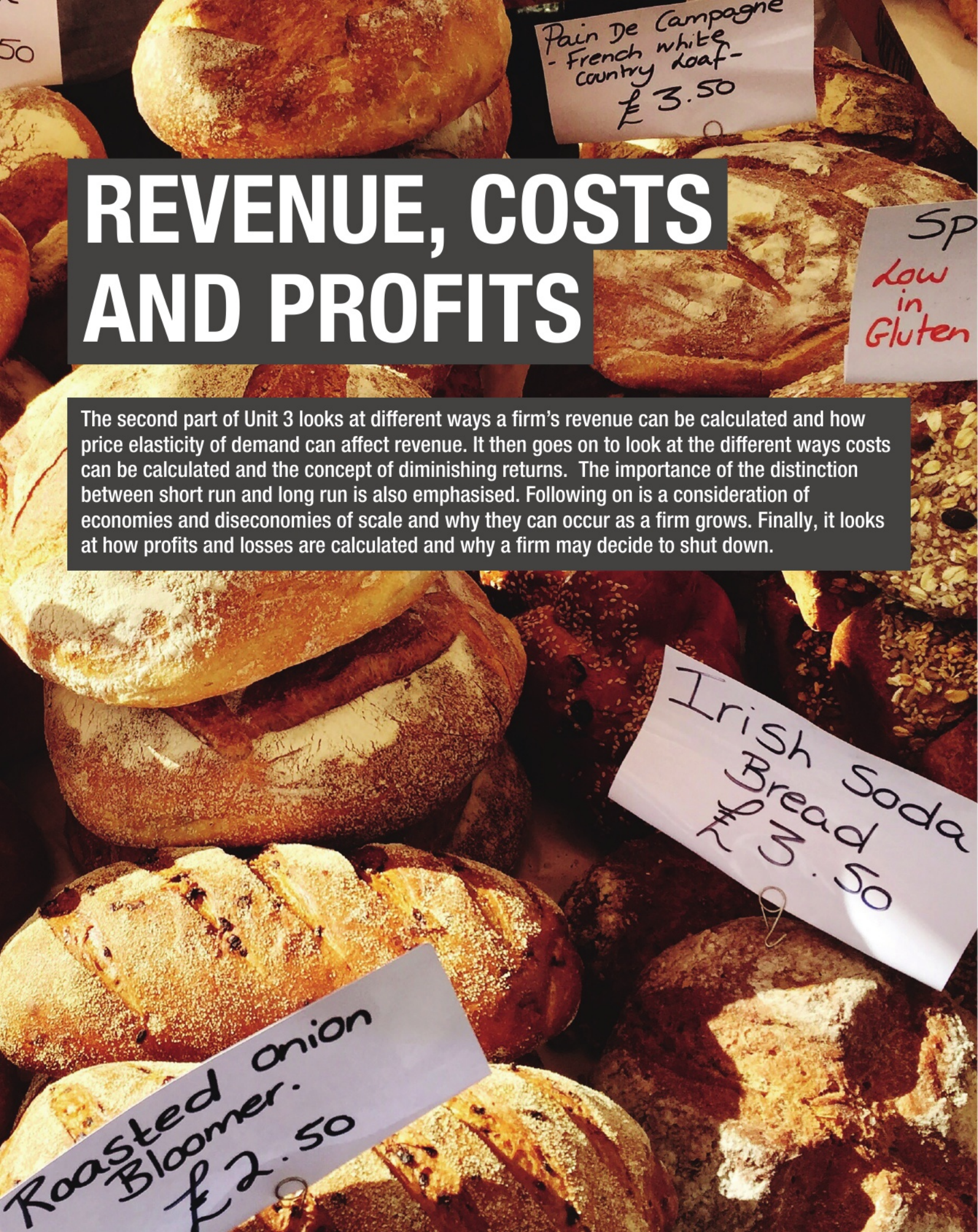
2 Explain what is meant by 'sales volume maximisation' for the FT. **(4 marks)**

3 Examine whether the business objectives of Nikkei for The Financial Times are likely to change over time. **(8 marks)**

4 Using evidence from the data, discuss whether or not The Financial Times is a profit maximiser. **(14 marks)**

### EXAM HINT

For Question 4, outline other objectives of the firm apart from profit maximisation. What evidence is there from the data that the firm is pursuing any of these objectives, including profit maximisation? What other information would you need apart from what is in the data to make a better evaluation?




# REVENUE, COSTS AND PROFITS

The second part of Unit 3 looks at different ways a firm's revenue can be calculated and how price elasticity of demand can affect revenue. It then goes on to look at the different ways costs can be calculated and the concept of diminishing returns. The importance of the distinction between short run and long run is also emphasised. Following on is a consideration of economies and diseconomies of scale and why they can occur as a firm grows. Finally, it looks at how profits and losses are calculated and why a firm may decide to shut down.

# 4 REVENUE

UNIT 3
3.3.2

## LEARNING OBJECTIVES

- Know how to calculate total revenue, average revenue and marginal revenue
- Understand the relationship between total revenue, average revenue and marginal revenue
- Understand that price elasticity of demand has an effect on revenue
- Know how to calculate the changes in revenue with different price elasticity of demand

## GETTING STARTED

A Gucci handbag might be priced at $3000. A handbag from Daraz, an online retailer, might cost $15. What determines how much revenue Gucci and Daraz make from selling handbags? If Gucci sold handbags for $15 and Daraz sold them for $3000, what would happen to their revenues and why? What has price elasticity of demand got to do with this?

## TOTAL, AVERAGE AND MARGINAL REVENUES

A firm's revenues are its receipts of money from the sale of goods and services over a period of time, such as a week or a year. There are three types of revenue: total, average and marginal revenue.

- **Total revenue** (TR) is the total amount of money received from the sale of any given level of output. It is the total quantity (Q) sold multiplied by the average price (P) received ($TR = Q \times P$). For example, if a company sold 100 machines at an average price of $1 million each over a year, then its total revenue would be $100 million.
- **Average revenue** (AR) is the average amount received per unit sold. It can be calculated by dividing total revenue by the quantity sold.

  $$\frac{TR}{Q}$$

  For example, if total revenue for a company is $50 million and it sold 50 machines over a year, then its average revenue is $1 million. If all output is sold at the same price, then average revenue must equal the price of the product sold ($AR = P$).
- **Marginal revenue** (MR) is the additional amount received from selling an extra unit of output. It is the difference between total revenue at different levels of output.

  $MR = TR_X - TR_{X-1}$

  It is therefore equal to the change in total revenue ($\Delta TR$ where $\Delta$ means 'change in') divided by the change in total output.

  $$MR = \frac{\Delta TR}{\Delta Q}$$

  For example, if total revenue was $900 million when 70 machines were sold but $910 million when 71 machines were sold, then the marginal revenue from the last machine sold is $10 million.

| Sales | Average revenue $ | Total revenue $ | Marginal revenue $ |
|---|---|---|---|
| 1 | 5 | 5 | 5 |
| 2 | 5 | 10 | 5 |
| 3 | 5 | 15 | 5 |
| 4 | 5 | 20 | 5 |
| 5 | 5 | 25 | |

▲ Table 1 Total, average and marginal revenue

## REVENUE CURVES

LINK Student Book 1, Chapter 7

Different revenue curves can be drawn if there are different assumptions about average revenue. One assumption is that a firm receives the same price for each good sold. This is shown in Table 1. The price is $5. As the price is the same regardless of how many are sold, this must also be equal to the average revenue. The total revenue increases as total sales increase. The marginal revenue, the additional revenue from each unit sold, is also $5 at all levels of sales.

This data can be illustrated on a diagram. Figure 1 shows the total revenue curve. Figure 2 shows the average and marginal revenue curves. Note that because the price of the good remains the same, the average and marginal curves are identical. The line is also horizontal, showing that whatever the level of output, average and marginal revenue remain the same at $5. The average revenue curve is the demand curve because it shows the relationship between average price and quantity sold. So at any quantity sold, marginal revenue is equal to average revenue and that is equal to demand.

**FIGURE 1**

**Total revenue when price is constant**
The total revenue curve is upward sloping as sales increase.

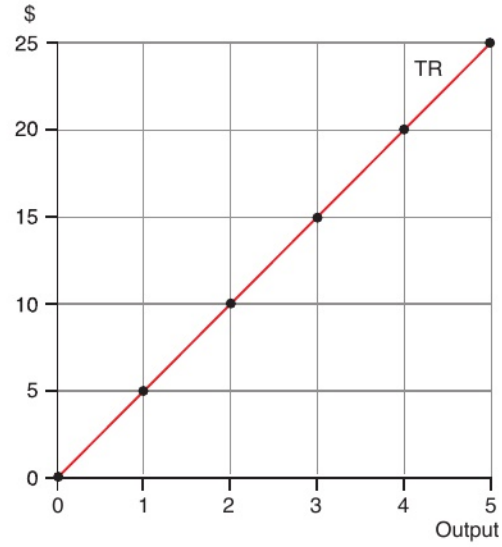



**FIGURE 2**

**Average and marginal revenue when price is constant**
Average and marginal revenue are constant when sales increase.

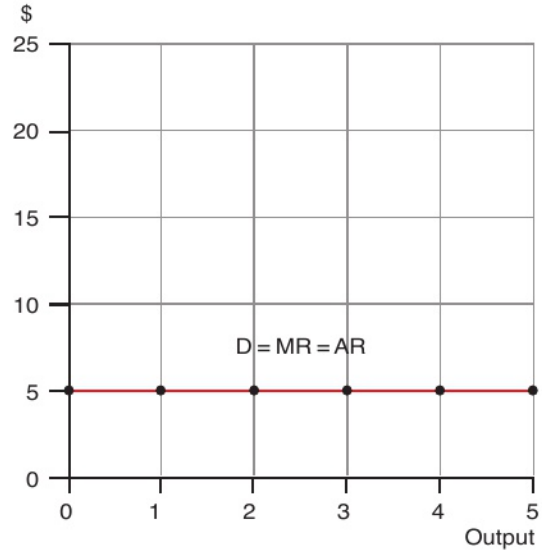



Table 2 shows a situation where a firm has to lower its price in order to achieve higher sales. So the average revenue, or average price, is falling as sales get larger. Table 2 shows that when sales reach six units, total revenue begins to fall. The loss in revenue from having to accept a lower price more than outweighs the increase in revenue from extra sales. As a result, marginal revenue becomes negative. Each extra unit sold brings in negative extra revenue, i.e. less revenue than the previous unit sold.

Figures 3 and 4 show the total, average and marginal revenue curves derived from the data in Table 2. The total revenue curve at first rises and

| Sales | Average revenue $ | Total revenue $ | Marginal revenue $ |
|---|---|---|---|
| 1 | 30 | 30 | |
| 2 | 27 | 54 | 24 |
| 3 | 24 | 72 | 18 |
| 4 | 21 | 84 | 12 |
| 5 | 18 | 90 | 6 |
| 6 | 15 | 90 | 0 |
| 7 | 12 | 84 | −6 |
| 8 | 9 | 72 | −12 |
| 9 | 6 | 54 | −18 |
| 10 | 3 | 30 | −24 |

▲ Table 2 Total, average and marginal revenue

**FIGURE 3**

**Total revenue when price is falling**
The total revenue curve shows that total revenue at first increases and then falls as sales increase and price falls.

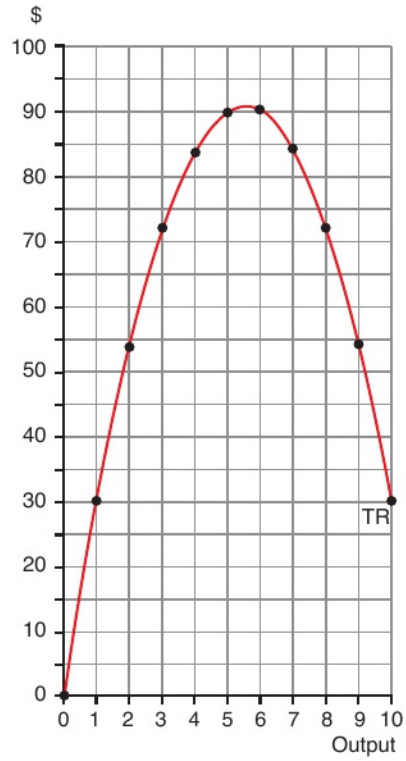
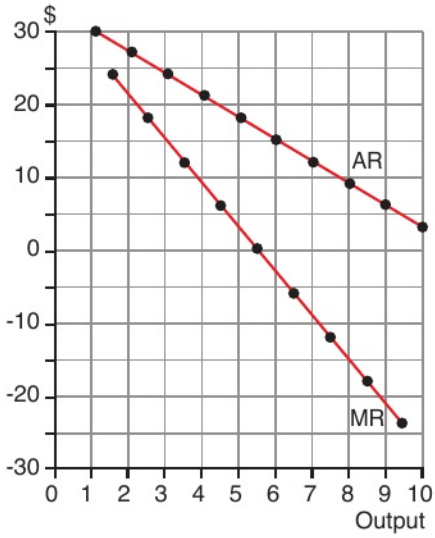


**FIGURE 4**

**Average and marginal revenue when price is falling**
The average and marginal revenue fall as sales increase. The average revenue curve is also the demand curve for the good because it shows the average price received at each level of sales.




## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: CALCULATING REVENUE

| Sales (million units) | Average revenue ($) | Total revenue ($) | Marginal revenue ($) |
|---|---|---|---|
| 1 | 20 | | |
| 2 | 18 | | |
| 3 | 16 | | |
| 4 | 14 | | |
| 5 | 12 | | |
| 6 | 10 | | |
| 7 | 8 | | |
| 8 | 6 | | |
| 9 | 4 | | |
| 10 | 2 | | |

▲ Table 3 Average, total and marginal revenue

1 Work out total revenue.
2 Work out marginal revenue at each level of sales from 1 million to 10 million.

then falls. The average revenue curve is downward sloping. The marginal revenue curve is also downward sloping. It slopes more steeply than the average revenue curve. Mathematically, the slope is twice as steep and, measuring the distance horizontally on the graph, marginal revenue is always exactly half average revenue. The average revenue curve is also the demand curve because it shows the relationship between average price and quantity sold. So average revenue equals demand.

## REVENUE AND PRICE ELASTICITY

When the price received by a firm for a good remains the same, the average revenue, marginal revenue and demand curves for the good are identical. They are horizontal. This means that price elasticity of demand for the good is perfectly elastic. Whatever the percentage change in the price of the good, there is no change in quantity demanded.

However, when the price of a good falls and sales increase, there is likely to be a change in price elasticity of demand along the average revenue curve. In Book 1 Chapter 8 it was explained that if demand was price inelastic, a rise in price would result in a rise in total spending by consumers, which is the same as an increase in total revenue for a firm or firms. If the percentage fall in quantity demanded is less than the percentage rise in price, then total revenue will increase. The opposite is also true: if demand is price elastic, then a percentage rise in price will result in an even larger percentage fall in quantity demanded. This will mean there is a fall in total revenue.

This can be seen in Table 2 and Figure 3. At sales levels up to six units, demand is price elastic because reductions in price result in increases in total revenue. At sales levels above this, demand is price inelastic. Reductions in price result in less total revenue.

In terms of marginal revenue, demand is price elastic so long as marginal revenue is positive, i.e. total revenue is increasing. When marginal revenue is negative, demand is price inelastic. In Figure 4, therefore, only that part of the marginal revenue where price is elastic is shown.

The average revenue curve is also the demand curve for the good. The top half of the curve in Figure 4 shows demand is price elastic.

The bottom half of the curve shows demand is price inelastic.

Price elasticity of demand is 1 or unitary when total revenue is maximised. This is when marginal revenue is zero (at an output between 5 and 6).

## THINKING LIKE AN ECONOMIST

### REVENUE MAXIMISATION

In 2018, AirAsia was offering discounted flights within the Philippines from P566 ($10.60). This is far below the average total cost per passenger carried on the flight. How can it make commercial sense for a firm like AirAsia to sell tickets below cost?

There is a range of industries where maximum profits are likely to be achieved if total revenues are maximised too. This is because in these industries there are very large fixed costs and relatively small variable costs. The additional cost, or marginal cost, of extra orders is therefore relatively small, so short-run profits become dependent on how much revenue is gained. Examples of such industries and firms include airlines, trains, passenger ferries and hotels.

Maximising total revenue requires a highly flexible pricing structure. Demand for a service like an aeroplane flight differs according to the time of the day, the day of the week, the week of the year and from year to year. Different groups of passengers are also prepared to pay different fares for fairly small differences in levels of service. For example, an airline might be able to charge double or triple the fare to a business person by allowing them to go straight to the front of the check-in queue at the airport, allowing them to sit in a special section at the front of the plane and giving them free meals and drinks on board.

Another way of saying this is that the price elasticity of demand for the product varies considerably between customers. For a business person having to get to a meeting by 10 o'clock in the morning, the price elasticity of demand is low. For a retired couple who can travel at any time and are willing to go to an airport that is further away at any time, then price elasticity of demand is high.

Maximising total revenue means that marginal revenue will be almost zero on some sales. Taking airlines as an example, companies like AirAsia attract some customers by offering cheap deals. However, the number of seats offered at these very low prices may be very small. They represent only a tiny fraction of the number of seats sold over a whole year. They are used mainly as part of marketing to generate interest from passengers who go on to buy flights at higher prices. However, economic theory would suggest that for airline companies, getting a passenger onto a plane who has paid almost nothing for the flight is better than having an empty seat which generates no revenue.

### CHECKPOINT

1. What is the formula for (i) total revenue, (ii) average revenue, (iii) marginal revenue?
2. Draw the total revenue curve when price is constant.
3. Draw the average revenue curve and marginal revenue curve when price is constant.
4. Draw the total revenue curve when price is falling.
5. Draw the average revenue curve and marginal revenue curve when price is falling.
6. If price elasticity of demand is elastic, what happens to revenue when price falls?
7. If price elasticity of demand is inelastic, what happens to revenue when price falls?

### SUBJECT VOCABULARY

**average revenue** the average amount received per unit sold. It is equal to total revenue divided by quantity sold

**marginal revenue** the addition to total revenue from the sale of an extra unit

**total revenue** the total money received from the sale of any given quantity of output

# EXAM PRACTICE

## MONDRAKER

SKILLS: ANALYSING, REASONING, PROBLEM-SOLVING

Mondraker designs, develops and manufactures mountain bikes. The company was started in Spain in 2001 and it only makes high-quality mountain bikes. It is a relatively new company but it has grown rapidly and now produces bikes that have won many worldwide competitions. As a company it is innovative and is always researching ways to improve the performance of its bikes.

In Spain nearly half of all bikes sold are mountain bikes and Mondraker bikes are popular. Its bikes are sold in more than 40 countries and they are selling well in America. The bikes are only sold through shops in the US as it is felt that the bikes need to be demonstrated for customers to appreciate their high quality.

A retailer in America estimated that he could sell 1000 of his most popular Mondraker mountain bike a year and not have to drop his prices. This bike is priced at $5000. To increase sales beyond 1000 a year would require some reduction in price. He estimates that he could sell 1500 a year at $4500 but to increase to 2000 a year, prices would need to drop to $4000. To sell 3000 cycles a year a price of $3500 would be needed.

An alternative strategy would be to try to increase sales of the two higher priced bikes. Currently around 25 per cent of all sales in his shop are of these higher priced bikes. The owner of the shop believes customers of the Dune bike and the Summum are less price sensitive. He estimates that to increase sales from 500 to 600 bikes, price elasticity of demand is 0.5 for the Dune bike. However, he estimates price elasticity of demand for the Summum bike is 0.75 for the same change in the quantity of bike sales.

**Q**

**1** Using the data, calculate what the owner of the bike shop believes would be total sales revenue of the average priced bike at a price of:
(a) $5000 **(2 marks)**
(b) $4500 **(2 marks)**
(c) $4000 **(2 marks)**
(d) $3500 **(2 marks)**

**2** Using your answer from Q1, draw an accurate:
(a) total revenue curve on one graph; and
(b) average revenue curve and marginal revenue curve on a second graph (remember to divide by 500 as you want the marginal revenue for one bike). You will find this easier if you use graph paper.
**(4 marks for each graph)**

**3** Calculate the price elasticity of demand between the three reductions in price:
(a) $5000 to $4500 **(2 marks)**
(b) $4500 to $4000 **(2 marks)**
(c) $4000 to $3500 **(2 marks)**

**4** Discuss whether Dune bikes or Summum bikes should have their prices increased to gain the highest increase in sales revenue for the shop.
**(14 marks)**

# 5 COSTS

UNIT 3
3.3.2

## LEARNING OBJECTIVES

- Understand how short-run cost curves are derived from the assumption of diminishing marginal productivity
- Understand the law of diminishing returns
- Know how to calculate total cost, total fixed cost, total variable cost, average cost, average fixed cost, average variable cost and marginal cost
- Understand the relationship between total cost, total fixed cost, total variable cost, average cost, average fixed cost, average variable cost and marginal cost
- Understand the relationship between marginal product and marginal costs
- Understand the relationship between average product and average cost
- Understand the relationship between total product and total cost
- Understand the relationship between short-run and long-run costs

## GETTING STARTED

Sanjeet and William start up a company making ready meals. For the first three months they work from the kitchen of William's parents' house. List 10 possible costs they may have. How would they calculate their total costs, average cost per ready meal sold and marginal cost to produce an extra ready meal? Do you think their average costs would rise or fall if they moved production to a factory unit?

## THE SHORT RUN AND LONG RUN

LINK Student Book 1, Chapter 10

Economists make a distinction between the **short run** and the **long run**. In the short run, producers have the problem that at least one of their factor inputs is fixed in supply (it cannot change in the short-run). For instance, the owner of a factory might want to expand and increase production. The workers can work longer hours by working overtime or by having different shifts, and more raw materials can be purchased. Labour and raw materials are variable inputs. But there is only a fixed amount of space on the factory floor and a fixed number of machines with which to work. This fixed capital places a constraint on how much more can be produced by the firm.

In the long run, all factor inputs are variable. A producer can vary the amount of land, labour and capital if it so chooses. In the long run, the firm in the above example could move into a larger factory and buy more machines, as well as employ more labour and use more raw materials.

In the long run, existing technologies do not change. In the **very long run**, the state of technology can change. For instance, a bank would be able to move from a paper-based system with cheques and bank statements to a completely electronic, paperless system with telephone, mobile or internet banking.

The way in which the short run and the long run are defined in the theory of production means that there is no standard length of time for the short run. In the chemical industry, it might take five years before a firm can expand, so the short run might last five years. In an industry with little or no permanent physical capital, the short run may be measured in months or even weeks. The short run for a street seller who hires everything, from the stall to a van, and keeps no stock may be as short as one day – the day she is selling stock in the street. So the short-run is the time it takes to expand in order to operate on a larger scale of production and the long-run is the time it takes to start operating on this large scale.

## THE SHORT RUN: DIMINISHING RETURNS

In the short run, at least one factor must be fixed. Assume for example that a firm uses only two **factors of production**: capital, in the form of buildings and machines, which is fixed, and labour, which can be varied. What will happen to output as more and more labour is used?

To begin with, output per worker is likely to rise. A factory designed for 500 workers, for instance, is unlikely to be very productive if only one worker is employed. But there will come a point when output per worker will start to fall. There is a best (or optimum) level of production which is most efficient. Eventually, if enough workers are employed, total output will fall. Imagine 10,000 workers trying to work in a factory designed for 500. The workers will get in each other's way so there will be less output than if a smaller number of workers were employed. This is known as the **law of diminishing returns** or the **law of diminishing marginal productivity**.

## THE LAW OF DIMINISHING RETURNS

The law of diminishing returns can be explained more formally using the concepts of total product, average product and marginal product.

- **Total product** is the quantity of output produced by a given number of inputs over a period of time. It is expressed in physical terms and not money terms. (Indeed, economists often refer to total physical product, average physical product and marginal physical product to emphasise this point.) For example, the total product of 1000 workers in the car industry over a year might be 30,000 cars.
- **Average product** is the quantity of output per unit of input. In the above example, output per worker would be 30 cars per year (the total product divided by the quantity of inputs, i.e. 30,000 divided by 1000 workers).
- **Marginal product** is how much output increases when an extra unit of input is added. If the addition of an extra car worker raised output to 30,004 cars in our example, then the marginal product would be four cars.

Now consider Table 1. In this example capital is fixed at 10 units while labour is a variable input.

- If no workers are employed, total output will be zero.
- The first worker produces 20 units of output. So the marginal product of the first worker is 20 units.
- The second worker produces an extra 34 units of output. So the marginal product of the second worker is 34 units. Total output with two workers is 54 units (20 units plus 34 units). Average output is 54 divided by 2, or 27 units per worker.
- The third worker produces an extra 46 units of output. So total output with three workers is 100 units (20 plus 34 plus 46). Average output is 100 divided by 3, or approximately 33 units per worker.

Initially, marginal product rises, but the fifth worker produces less than the fourth. Diminishing marginal returns therefore set in between the fourth and fifth workers. Average product rises too at first and then falls, but the turning point is later than for marginal product. Diminishing average returns set in between five and six workers.

The law of diminishing returns states that if increasing quantities of a variable input are combined with a fixed input, eventually the marginal product and then the average product of that variable input will decline.

It is possible to draw total product, average product and marginal product curves. The curves in Figure 1 are derived from the data in Table 1. All three curves first rise and then fall. Marginal product falls first, then average product and finally total product.

| | | Units | | |
|---|---|---|---|---|
| Capital | Labour | Physical product as labour is varied | | |
| | | Total product | Average product | Marginal product |
| 0 | 0 | 0 | 0 | |
| 10 | 1 | 20 | 20 | 20 |
| 10 | 2 | 54 | 27 | 34 |
| 10 | 3 | 100 | 33 | 46 |
| 10 | 4 | 151 | 38 | 51 |
| 10 | 5 | 197 | 39 | 46 |
| 10 | 6 | 230 | 38 | 33 |
| 10 | 7 | 251 | 36 | 21 |
| 10 | 8 | 234 | 29 | –17 |

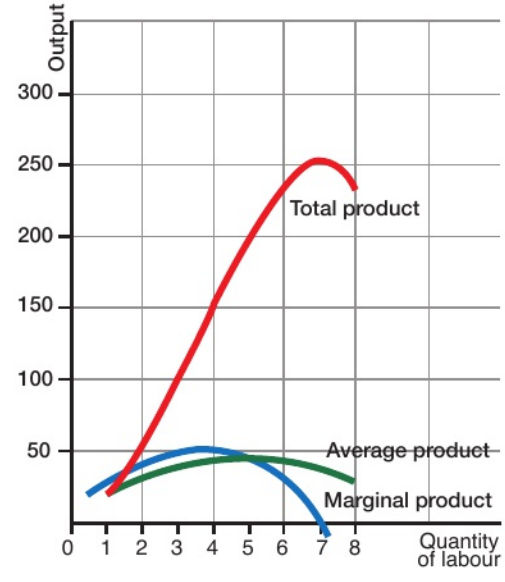
1. Rounded to the nearest whole number.

▲ Table 1 Total, average and marginal products[1]

**FIGURE 1**

**Total, average and marginal product**

The curves are derived from the data in Table 1. Note that diminishing marginal returns set in before diminishing average returns. Note too that the marginal product curve cuts the average product curve at its highest point, while the total product curve falls when the marginal product curve cuts the horizontal axis.



## RETURNS TO SCALE

The law of diminishing returns explains how cost curves behave in the short run when at least one factor of production is fixed in supply. In the long run, firms can vary all their factor inputs. What would happen to the output of a firm if, for instance, it increased all its inputs by the same proportion? There are only three possibilities.

- Increasing **returns to scale** occur if an equal percentage increase in inputs to production leads to a more than proportional increase in output. For example, if a firm increases its land, labour and capital inputs by 200 per cent, but as a result its output increases 300 per cent, then increasing returns to scale have occurred. In Table 2, if one unit of capital and one unit of all other factors of production are used, then 20 units of output are produced. Increasing the inputs to two units of capital and two units of all other factors increases output to 50 units which is more than 2 times the original output. Then an increase in inputs by 50 per cent from two to three units of all factors increases output by more than 50 percent from 50 units to 80 units. Therefore, the firm is operating under conditions of increasing returns to scale.

| | | Units of capital | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| Units of all other factors of production | 1 | 20 | 35 | 45 |
| | 2 | 30 | 50 | 65 |
| | 3 | 35 | 63 | 80 |

▲ Table 2 Increasing returns to scale

- Constant returns to scale occur if an equal percentage increase in inputs to production leads to the same percentage increase in output. For example, if a firm increases its inputs by 100 per cent and this results in a 100 per cent increase in output, then constant returns to scale occur.
- Decreasing returns to scale occur if an equal percentage increase in inputs to production leads to a less than proportional increase in output. For example, decreasing returns to scale occur if a firm increases its inputs by 100 per cent but its output increases by less than 100 per cent.

## THE ECONOMIC DEFINITION OF COST

LINK Student Book 1, Chapter 2

Economists use the word 'cost' in a very specific sense. The **economic cost** of production for a firm is the opportunity cost of production. It is the value that could have been generated had the resources been employed in their next best use.

For instance, a street trader has some very obvious costs, such as the cost of buying stock to sell and the petrol to get her to and from the street where she sells her stock. Money will be paid for these and this will be an accurate reflection of opportunity cost. However, there are a number of hidden costs. Resources which have an opportunity cost but for which no payment is made must have an **imputed cost**. There are a number of examples that can be used to illustrate imputed cost.

**Labour** A street trader working on her own may calculate that she has made $50 'profit' on a day's trading. However, this may not include the value of her own time. If she could have earned $40 working in another job for the day, then her economic profit is only $10. Hence, the opportunity cost of her labour must be included as an economic cost of production.

**Financial capital** An entrepreneur may start a company with his own money investing, say, $50,000. The economic cost of production must include the opportunity cost of that start-up capital. If he could have earned 10 per cent per year in an alternative investment, then the economic cost (the opportunity cost) is $5000 per year.

**Depreciation** The physical capital of a company will deteriorate over time. Machines wear out, buildings need repairs, etc. Also, some capital will become obsolete before the end of its physical life. The economic cost of depreciation is the difference between the purchase price and the resale value of a good. A car, for instance, which lasts for 10 years does not depreciate at 10 per cent each year. In the first year, cars depreciate on average by 40 per cent. Therefore a company paying $20,000 for a new car which depreciates by 40 per cent over its first year only has an asset worth $12,000 at the end of the year. $12,000 is the monetary value of the opportunity cost of keeping the car rather than selling it at the end of that year.

**Goodwill** A firm trading over a number of years may acquire a good reputation. It may produce branded goods which become well-known brand names. The goodwill of these brands has an opportunity cost. They could be sold to a rival company. Therefore the interest not received on the potential sale value of these must be included as an economic cost.

Economists differ in their use of the word 'cost' from accountants, tax inspectors, businesses and others. Accountants have developed specific conventions about what is and what is not a cost and what should and should not be included on a statement of financial position, and an accountant's

statement of financial position may be very different from that of an economist.

## FIXED AND VARIABLE COSTS

Economists distinguish between two types of cost: fixed and variable cost.

A **fixed cost** (also called an **indirect** or **overhead** cost) is a cost which does not vary directly with output. As production levels change, the value of a fixed cost will remain constant. For instance, a company may rent premises. The rent on the premises will remain the same whether the company produces nothing or produces at full capacity. If a firm pays for an advertising campaign, the cost will be the same whether sales remain constant or increase. Costs commonly given as examples of fixed costs are spending on capital goods (e.g. factories, offices, plant and machinery), rent, salaries of permanent office staff and spending on advertising and promotion.

### ACTIVITY 1

SKILLS PROBLEM-SOLVING

**CASE STUDY: CALCULATING PROFIT**

A woman runs her own business. Over the past 12 months, she has paid $18,000 for materials and $9000 in wages to a worker whom she employs. She runs the business from premises which her parents own. These premises could be rented out for $10,000 a year if she was not occupying them. She has $40,000 worth of her own capital tied up in the business. She is a trained teacher and at present works exactly half of her time in a school earning $15,000. She could work full time as a teacher (earning $30,000 a year) if she didn't run the business. The current rate of interest is 5 per cent. The total revenue of her business over the past 12 months was $60,000.

1 On the basis of these figures, what were the costs she actually paid out and what were her economic costs?
2 Did she make a profit last year?

A **variable cost** (or **direct** or **prime** cost) is a cost which varies directly with output. As production increases, so does variable cost. For instance, a steel maker will use iron ore. To produce more steel, more iron ore will be needed, so the cost of iron ore is a variable cost. Raw materials for production are the clearest example of variable costs for most firms.

It is not always easy to categorise a cost as either fixed or variable. Many costs are **semi-variable costs**. Labour is a good example. Some firms employ a permanent staff, which could be classified as a fixed cost. They might ask the permanent staff to do overtime when necessary, or employ temporary labour. These costs would be classified as variable. However, permanent staff could be seen as a variable cost if a firm was willing to hire and fire staff as its output changed. In practice, firms do adjust staff numbers with output, but the adjustment is slow and therefore the cost of labour is neither variable nor fixed – it is a semi-variable cost.

In the short run, at least one factor input of production cannot be changed. Therefore, in the short run, some costs are fixed costs while others will be variable.

In the long run, all factor inputs can vary, so in the long run, all costs will be variable costs.

### ACTIVITY 2

SKILLS REASONING, ANALYSIS

**CASE STUDY: IDENTIFYING FIXED, VARIABLE AND SEMI-VARIABLE COSTS**

Rachel Hughes owns a whole food vegetarian restaurant. Which of the following costs would be most likely to be fixed costs, variable costs or semi-variable costs for her business: rice; rent; wages of temporary staff; interest payments on a loan; electricity; cooking oil; pots and pans; her own wage?

## TOTAL COST, AVERAGE COST AND MARGINAL COST

It is important to distinguish between the total, average and marginal costs of production. The total cost (TC) of production is the cost of producing a given level of output. For instance, if a manufacturer produces 100 units a week and its weekly costs come to $1 million, then $1 million is the total cost of production. Increased production will almost certainly lead to a rise in total costs. If the manufacturer increased output to 200 units a week, it would need to buy more raw materials, increase the number of workers, and generally increase its factor inputs.

This is illustrated in Table 3. At an output level of one unit per week, the total cost of production is $400. If output is two units per week, total costs rise to $500.

The **total cost** of production is made up of two components:

- **total variable cost** (TVC) which varies with output
- **total fixed cost** (TFC) which remains constant whatever the level of output.

| (1) Output (per week) | (2) Total variable cost ($) | (3) Total fixed cost ($) | (4) Total cost (columns 2+3) ($) |
|---|---|---|---|
| 0 | 0 | 200 | 200 |
| 1 | 200 | 200 | 400 |
| 2 | 300 | 200 | 500 |
| 3 | 600 | 200 | 800 |
| 4 | 1200 | 200 | 1400 |
| 5 | 2000 | 200 | 2200 |

▲ Table 3 Total costs of production

| (1) Output (per week) | (2) Total cost ($) | (3) Marginal cost (per unit of output) ($) |
|---|---|---|
| 1 | 400 | 100 |
| 2 | 500 | 300 |
| 3 | 800 | 600 |
| 4 | 1400 | 800 |
| 5 | 2200 | |

▲ Table 5 Marginal costs of production

So in Table 3, total variable cost increases from zero to $2000 as output increases from zero to five units per week, while total fixed costs remain constant at $200 whatever the level of output. Total variable costs when added to total fixed costs are equal to total cost. Mathematically:

TVC + TFC = TC

The **average cost** of production is the total cost divided by the level of output. For instance, if a firm makes 100 items at a total cost of $1000, then the average cost per item is $10. If a firm makes 15 items at a cost of $30, then the average cost of production is $2. Mathematically:

$$AC = \frac{TC}{Q}$$

where AC is average cost, TC is total cost and Q is quantity or the level of output.

Average cost, like total cost, is made up of two components:

- **average variable cost** (AVC) is total variable cost divided by the level of output
- **average fixed cost** (AFC) is total fixed cost divided by the level of output.

| (1) Output (per week) | (2) Average variable cost ($) | (3) Average fixed cost ($) | (4) Average total cost (columns 2+3) ($) |
|---|---|---|---|
| 1 | 200 | 200 | 400 |
| 2 | 150 | 100 | 250 |
| 3 | 200 | 67 | 267 |
| 4 | 300 | 50 | 350 |
| 5 | 400 | 40 | 440 |

1. Rounded to the nearest dollar.

▲ Table 4 Average costs of production[1]

The average costs of production for the example in Table 3 are given in Table 4.

**Marginal cost** is the cost of producing an extra unit of output. For instance, if it costs $100 to produce 10 items and $105 to produce 11 items, then the marginal cost of the eleventh item is $5. If it costs $4 to produce two items but $10 to produce three items, then the marginal cost of the third item is $6. Mathematically, marginal cost (MC) is calculated by dividing the change in total cost (ΔTC) by the change in total output (ΔQ).

$$MC = \frac{\Delta TC}{\Delta Q}$$

The marginal costs of production for the figures in Tables 3 and 4 are given in Table 5.

## DIMINISHING RETURNS AND SHORT-RUN COSTS

In the short run a firm will be faced with employing at least one factor input which cannot be varied. For instance, it might have a given number of machines or a fixed quantity of office space. If it increases output by using more of the variable factor inputs, diminishing marginal returns and then diminishing average returns will set in eventually.

Diminishing returns is a technical concept. Therefore, it is expressed in terms of physical inputs and physical product (the output of the firm). However, it is possible to express physical inputs in terms of costs. For example, a firm which employed five workers at a wage of $200 per week, and had no other costs, would have total weekly costs of $1000. If each worker produced 200 units of output, then the average cost per unit of output would be $1 [$1000 ÷ (5 × 200)]. The marginal cost of the 200 units produced by the fifth worker would be that worker's wage ($200), and so the marginal cost per unit of output would be $1 ($200 ÷ 200).

## ACTIVITY 3

SKILLS PROBLEM-SOLVING

### CASE STUDY: CALCULATING COSTS

| Units | $ | | | | | | |
|---|---|---|---|---|---|---|---|
| Output | Total fixed cost | Total variable cost | Total cost | Average fixed cost | Average variable cost | Average cost | Marginal cost |
| 0 | 40 | | | | | | |
| 1 | | 6 | | | | | |
| 2 | | 11 | | | | | |
| 3 | | 15 | | | | | |
| 4 | | | 60 | | | | |
| 5 | | | 66 | | | | |

▲ Table 6 Output and costs

**1** Complete Table 6 by working out the missing figures.

## SHORT-RUN COST SCHEDULES

Having looked at inputs, it is now possible to see how the law of diminishing returns affects short-run costs. Table 7 is an example of how this can be done. It is assumed that the firm can employ up to eight workers at identical wage rates (i.e. the supply of workers over the range one to eight is perfectly elastic). The price of capital per unit is $100 and the price of labour is $200 per unit.

Capital is the fixed factor of production. Therefore whatever the level of production, total fixed cost will be $1000. Total variable cost will increase as more and more labour is added. Therefore, the total variable cost of producing 20 units is $200 (1 unit of labour × $200), of 54 units it is $400 (2 units of labour × $200), and so on.

Total cost is total fixed cost plus total variable cost. Once the three measures of total cost have been worked out, it is possible to calculate average and marginal costs. Alternatively, it is possible to calculate marginal cost per unit by finding the cost of the additional labour and dividing it by the marginal physical product. In our example, the cost of hiring an extra worker is a constant $200. Therefore, the marginal cost of producing, say, an extra 34 units once 20 have been made is $200 (the cost of the second worker). The marginal cost per unit is then $200 ÷ 34. Average variable cost can be calculated in a similar manner.

| Units | | | $ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Capital | Labour | Total physical product (output) | Total cost[1] | | | Average cost[2] | | | Marginal cost |
| | | | TVC | TFC | TC | AVC | AFC | AC | MC |
| 10 | 0 | 0 | 0 | 1000 | 1000 | 0 | – | – | |
| 10 | 1 | 20 | 200 | 1000 | 1200 | 10.0 | 50.0 | 60.0 | 10.0 |
| 10 | 2 | 54 | 400 | 1000 | 1400 | 7.4 | 18.5 | 25.9 | 5.9 |
| 10 | 3 | 100 | 600 | 1000 | 1600 | 6.0 | 10.0 | 16.0 | 4.3 |
| 10 | 4 | 151 | 800 | 1000 | 1800 | 5.3 | 6.6 | 11.9 | 3.9 |
| 10 | 5 | 197 | 1000 | 1000 | 2000 | 5.1 | 5.1 | 10.2 | 4.3 |
| 10 | 6 | 230 | 1200 | 1000 | 2200 | 5.2 | 4.3 | 9.6 | 6.1 |
| 10 | 7 | 251 | 1400 | 1000 | 2400 | 5.6 | 4.0 | 9.6 | 9.5 |
| 10 | 8 | 260 | 1600 | 1000 | 2600 | 6.2 | 3.8 | 10.0 | 22.2 |

1. Assuming that capital costs $100 per unit and labour costs $200 per unit.
2. The three measures of average cost have been calculated to the nearest decimal from total figures. AC therefore does not always equal AVC+AFC because of rounding.

▲ Table 7 Marginal costs of production

## SHORT-RUN COST CURVES

The cost schedules in Table 7 can be plotted on a graph (Figure 2) to produce cost curves.

**Total cost curves** The total fixed cost (TFC) curve is a horizontal straight line, showing that TFC is constant whatever the level of output. The total cost (TC) and total variable cost (TVC) curves are parallel because the vertical distance between the two (the difference between TC and TVC) is the constant total fixed cost. The shape of the TC and TVC curves is caused by the change from increasing returns to diminishing returns.

**Average cost curves** The average fixed cost (AFC) curve falls as output increases because fixed costs represent an ever-decreasing proportion of total cost as output increases. The average cost (AC) curve and average variable cost (AVC) curve fall at first and then rise. They rise because diminishing average returns set in. The vertical distance between the AC and AVC curves is the value of average fixed cost. This must be true because average cost minus average variable cost is equal to average fixed cost.

**Marginal cost curve** The marginal cost (MC) curve at first falls and then rises as diminishing marginal returns set in.

## POINTS TO NOTE

**U-shaped AC and MC curves** The MC and AC curves in Figure 2 are 'U-shaped'. This is a characteristic not just of the sample figures in Table 7, but of all short-run MC and AC curves. They are U-shaped because of the law of diminishing returns. The lowest point on the MC and the AVC curves shows the point where diminishing marginal returns and diminishing average returns set in respectively.

**Product and cost curves** The marginal and average cost curves shown in Figure 1 are mirror images of the marginal and average product curves that could be drawn from the same data in Table 7. Marginal and average physical product rise when marginal and average cost fall, and vice versa. This is what should be expected.

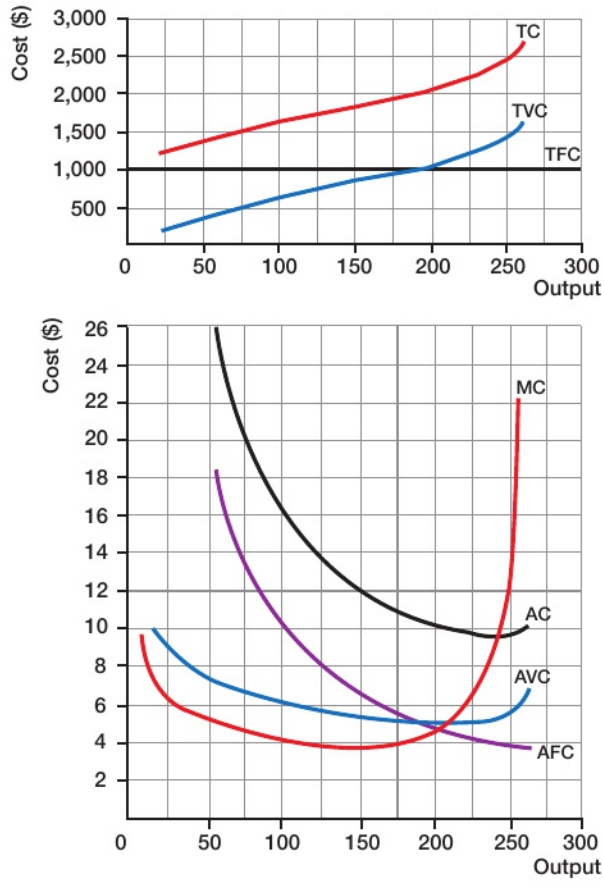
If marginal physical product is rising, then the extra cost of producing a unit of output must fall, and similarly with average physical product and average variable cost. For instance, when the second worker produces 34 units, the third worker 46 units and the fourth worker 51 units, the marginal cost of production must be falling because the increase in output is rising faster than the increase in cost.

When marginal physical product is falling, the extra cost of producing a unit of output must rise for the same reason. However, the cost and product curves will only be mirror images of each other if there are constant factor costs per unit. If, for instance, we assumed that the unit cost of labour increased as more workers were employed, so that the average wage of three workers was higher than the average wage of two, then the product and cost curves would not be mirror images.

**MC curve cuts AC curves at their lowest points** In Figure 2, the marginal cost curve cuts the average total cost curve and average variable cost curve at their lowest points.

### FIGURE 2

**The shape of short-run cost curves**
The shape of the average and marginal cost curves is determined by the law of diminishing returns. The curves are drawn from the data in Table 7. Assuming constant factor prices, diminishing marginal returns set in at an output level of 145 when the marginal cost curve is at its lowest point. Diminishing average returns set in at the lowest point of the average variable cost curve at an output of 210 units.



To understand why this must always be true, consider the example of a group of students whose average height is two metres. A new student (the marginal student) arrives in the group. If the student is above two metres then the average height of the group will now rise. If the student is less than two metres, the average height of the group will fall. If the student is exactly two metres tall, then the average height of the group will stay the same. Now apply this to average and marginal cost. If the average cost curve is falling, then the cost of an extra unit of output (the marginal cost) must be less than the average cost. If average cost is rising, it must be true that the cost of an extra unit of output is higher than the average cost. When average cost is neither rising nor falling, marginal cost must be the same as average cost. Hence we know that:

- The average cost curve is above the marginal cost curve when average cost is falling.
- The average cost curve is below the marginal cost curve when average cost is rising.
- Average cost and marginal cost are equal for all levels of output when average cost is constant; if the average cost curve is U-shaped, this means that marginal cost will be equal to and will cut the average cost curve at its lowest point.

The same chain of reasoning applies to the relationship between the average variable cost curve and the marginal cost curve.

## THINKING LIKE AN ECONOMIST

### INCREASING RETURNS AT PETROL/GAS STATIONS

#### THE PRODUCTION FUNCTION

Petrol/gas stations provide a service to their customers. They buy fuel and other goods in large quantities, store it and then sell it in smaller quantities to customers when they want to make their purchases. Other inputs (apart from stock) to this production process include the land on which the petrol station is built, capital in the form of buildings and equipment, and labour.

#### CHANGING PRODUCT MIX

Petrol/gas stations tended originally to be attached to garages which repaired and perhaps also sold cars. Garages aimed to provide a complete service to the motorist. Increasingly, however, petrol/gas stations were built without the provision of other garage services. This enabled them to benefit from specialisation.

#### INCREASING RETURNS

Petrol/gas stations rarely operate at maximum capacity. Most could supply petrol to more customers without having to increase the size of their site or install new pumps. So more petrol sales could be achieved by combining existing capital with more petrol.

Petrol companies have also realised for many years that other goods can be sold from petrol stations. Typically, this started off with confectionery and a few motor products such as oil. However, they have increasingly turned petrol/gas stations into mini convenience stores. By combining groceries, snack foods, motor products and newspapers, they have again been able to achieve increasing returns to scale, selling more products without increasing their stock of fixed capital.

## CHECKPOINT

1 What is the difference between short-run and long-run?

2 What is meant by diminishing returns?

3 Outline the relationship between the marginal revenue and the average revenue curves.

4 What is the difference between an economic cost and a cost that an accountant would calculate?

5 How are each of the following cost curves calculated:
(a) total cost
(b) total fixed cost
(c) total variable cost
(d) average cost
(e) average fixed cost
(f) average variable cost
(g) marginal cost.

6 Outline the relationship between:
(a) marginal product and marginal cost
(b) average product and average cost
(c) total product and total cost.

7 Why are there no fixed costs in the long run?

## SUBJECT VOCABULARY

Δ means 'change in'

**average cost** (AC) the average cost of production per unit, calculated by dividing the total cost by the quantity produced. It is equal to average variable cost + average fixed cost

**average fixed cost** (AFC) total fixed cost divided by the number of units produced

**average product** (AP) the quantity of output per unit of factor input. It is the total product divided by the level of output

**average variable cost** (AVC) total variable cost divided by the number of units produced

**economic cost** the opportunity cost of an input to the production process

**factors of production** the inputs to the production process: land, labour, capital and enterprise or entrepreneurship

**fixed cost** (FC) or **indirect** or **overhead costs** costs which do not vary as the level of production increases or decreases

**imputed cost** an economic cost which a firm does not pay for with money to another firm but is the opportunity cost of factors of production which the firm itself owns

**law of diminishing returns** or **marginal productivity** if increasing quantities of a variable input are combined with a fixed input, eventually the marginal product and then the average product of that variable input will decline. Diminishing returns are said to exist when this decline occurs

**long run** the period of time when all factor inputs can be varied, but the state of technology remains constant

**marginal cost** (MC) the cost of producing an extra unit of output

**marginal product** (MP) the addition to output produced by an extra unit of input. It is the change in total output divided by the change in the level of inputs

**returns to scale** the change in percentage output resulting from a percentage change in all the factors of production. There are increasing returns to scale if the percentage increase in output is greater than the percentage increase in factors employed, constant returns to scale if it is the same and decreasing returns to scale if it is less

**semi-variable cost** a cost which contains within it a fixed cost element and a variable cost element

**short run** the period of time when at least one factor input to the production process cannot be varied

**total cost** (TC) the cost of producing any given level of output. It is equal to total variable cost + total fixed cost

**total fixed cost** (TFC) the value of the cost of production which does not vary however many units are produced

**total product** (TP) the quantity of output measured in physical units produced by a given number of inputs over a period of time

**total variable cost** (TVC) the overall cost of those factors of production that vary directly with the amount produced

**variable cost** (VC) or **direct** or **prime costs** costs which vary directly in proportion to the level of output of a firm

**very long run** the period of time when the state of technology may change

# EXAM PRACTICE

## COSTA COFFEE PUSH INTO CHINA

SKILLS ANALYSING, REASONING

The Costa chain in the UK had just 41 shops when Whitbread bought it in 1995 – it now has more than 2000. The rise of Costa has come as the UK has seen a huge increase in coffee drinking. Converting a nation of tea drinkers to coffee would be a tough job. Costa wants to make a big push into China, another country with a long tradition of tea-drinking. Costa aims to have total annual sales of £2.5bn by 2020, with a third of that coming from overseas. The average Briton now drinks the equivalent of 3.3kg of coffee beans a year, according to the International Coffee Organisation. That is still behind countries such as the US and Italy, but well ahead of the 0.83kg a year that the average Chinese person consumes.

Starbucks is a distant second to Costa in the UK but in China it is well ahead, with more than 600 stores in Shanghai alone, against 449 Costas across the whole of China. A spokesperson from Costa said it is not worried by the greater scale of its US rival. 'The scale of China is breathtaking…there is more than enough growth to go around.' Costa bought out its joint venture partner last year, and aims to triple its store numbers there to 1200 by 2022. 'Over the past fifteen years you've seen the UK become a nation of coffee drinkers. You only need a tiny proportion of that shift to occur in China for it to become a really huge opportunity.'

Q

**1** Which one of the following is a variable cost of Costa in China? **(1 mark)**

(a) Rent of coffee shops
(b) Salaries of shop managers
(c) Purchase of coffee beans
(d) Insurance of the shop building

Which one of the following is the correct formula for how Costa calculates its total cost of each shop? **(1 mark)**

(a) TC = FC + TVC
(b) TC = AVC + AFC
(c) TC = AC + AFC
(d) TC = FC + AFC

**3** Explain why diminishing returns will eventually set in as more and more workers are employed in a Costa coffee shop. **(4 marks)**

**4** Analyse why the marginal cost of a cup of coffee will increase when diminishing returns have set in. **(6 marks)**

**5** Using a suitable diagram, evaluate the likely impact on the average cost of a cup of Costa coffee in China if the marginal cost of one additional cup of coffee is higher than the average cost. **(20 marks)**

# 6 ECONOMIES AND DISECONOMIES OF SCALE

UNIT 3
3.3.2

## LEARNING OBJECTIVES

- Understand the relationship between long-run cost curves and economies and diseconomies of scale
- Understand what is meant by minimum efficient scale
- Understand the difference between internal and external economies of scale
- Understand six sources of internal economies of scale (financial, technical, managerial, marketing, purchasing, risk bearing)
- Understand three sources of external economies of scale (availability of skilled labour, access to transport links, sharing knowledge)
- Understand three sources of diseconomies of scale (communication problems, coordination problems, X-inefficiency)

## GETTING STARTED

Why do businesses want to expand? What benefits do they think they will gain? If two clothing manufacturers were to combine together, what cost savings could they make by operating on a larger scale? In what ways would the new, larger company be able to operate and use its resources more efficiently?

## ECONOMIES OF SCALE AND LONG-RUN AVERAGE COST

LINK Student Book 1, Chapter 2

In the long run, all factors of production are variable. This has an effect on costs as output changes. To start with, long-run costs fall as output increases. **Economies of scale** are then said to exist. For instance, a firm's output increases from 10 million units to 40 million units. However, total costs of production only increase from $10 million to $20 million. The average cost of production consequently falls from $1 per unit ($10 million ÷ 10 million) to 50c per unit ($20 million ÷ 40 million).

Empirically (i.e. from studying real examples of the costs of firms), economists have found that firms do experience economies of scale. As firms expand in size and output, their long-run average costs tend to fall. At some point, which varies from industry to industry, long-run average costs become constant. However, some firms become too large and their average costs begin to rise. They are then said to experience **diseconomies of scale**. For instance, if a firm increased its output by two times, but as a result its costs were four times as high, then the average cost of production would increase by two times as much.

This pattern of falling and then rising long-run average costs is shown in Figure 1. At output levels up to OA, the firm will enjoy falling long-run average costs

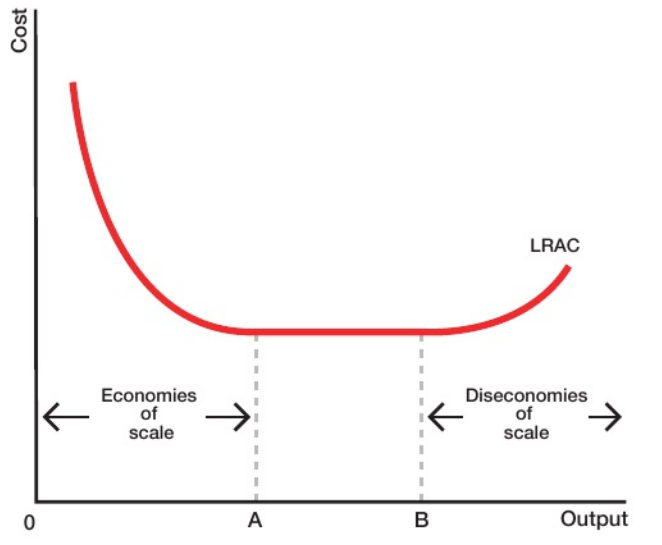
**FIGURE 1**

**Economies of scale**

The long-run average cost (LRAC) curve is U-shaped because of how long run average costs behave:

- at first they fall over the output range OA showing economies of scale
- then they are constant over the output range AB
- then they rise when output exceeds OB showing diseconomies of scale.

Over the output range AB, the minimum cost level of production, the firm is said to be at its optimum level of production.



and therefore experience economies of scale. Between output levels of 0A and 0B, long-run average costs are constant. To the right of 0B, long-run average costs rise and the firm faces diseconomies of scale.

LRAC in Figure 1 is drawn assuming input prices for costs have not changed. However, if the cost of all raw materials in the economy increased by 20 per cent, there would be a shift upward in the LRAC curve itself (i.e. assuming other input costs do not change). Similarly, a fall in the wage rates in the industry would lead to a downward shift of the whole LRAC curve.

## MINIMUM EFFICIENT SCALE

LINK Student Book 1, Chapter 10

Productive efficiency is said to exist when production takes place at the lowest average cost. If the long-run average cost curve is U-shaped, then this will occur at the bottom of the curve when constant returns to scale exist. The output range over which average costs are at a minimum is said to be the **optimal level of production**. In Figure 1 the optimal level of production occurs over the range AB.

The output level at which lowest cost production starts is called the **minimum efficient scale** (MES) **of production**. In Figure 1, the MES is at point A. If a firm is producing to the left of the MES, then long-run average costs will be higher. To the right, they will either be the same (if there are constant returns) or will be increasing (if there are diseconomies of scale).

## SOURCES OF INTERNAL ECONOMIES OF SCALE

**Internal economies of scale** occur for a number of reasons.

**Financial economies** Small firms often find it difficult and expensive to raise finance for new investment. When loans are given, small firms are charged at relatively high rates of interest because banks know that small firms are far more at risk from bankruptcy than large firms. Large firms have a much greater choice of finance and it is likely to be much cheaper for them to borrow than for small firms.

**Technical economies** Economies of scale can exist because of increasing returns to scale. These economies are known as technical economies. They arise from what happens in the production process. For example, many firms find that they need equipment but are unable to make maximum use of it. A small business that builds houses may use a machine such as a cement mixer on average only three days a week. If the business was able to take on more work it might be able to use it five days a week. The total cost of the cement mixer is the same whether it is used for three days or five days a week (apart from possible depreciation) but the average cost per house built will be lower the more it is used. This is an example of an indivisibility. The larger the level of output, the less likely that indivisibilities will occur (i.e. it is less likely that the equipment or machinery will be unused for a part of the time).

Technical economies arise too because larger plant size is often more productively efficient. For instance, because an oil tanker is essentially a cylinder, doubling the surface area of the tanker (and therefore doubling the approximate cost of construction) more than doubles the carrying capacity. It is generally cheaper to generate electricity in large power stations than in small ones. The average cost of production of a car plant making 50,000 cars a year will be less than that of one making 5000 cars a year.

So far, it has been assumed that factor costs are constant. However, factor costs may change as a firm changes in size.

**Managerial economies** Specialisation is an important source of greater efficiency. In a small firm, the owner might be part time salesman, accountant, receptionist and manager. Employing specialist staff is likely to lead to greater efficiency and therefore lower average costs. The reason why small firms don't employ specialist staff is because staff often represent an indivisibility. This is because a small firm cannot afford to employ a specialist manager to carry out marketing tasks only; they will also have to carry out other functions such as supervising production. Therefore they will be less efficient when carrying out each of the different functions, as they never become an expert in any of them.

**Marketing economies** The cost of a sales force selling 40 different styles of product is very much the same as one selling 35 different styles of product. A 30-second TV commercial for a product which has sales of $10 million **per annum** costs the same as a 30-second TV commercial for one which has sales of only $5 million per annum. Since the cost of the advertising campaign is the same, the higher the sales, the lower will be the unit costs. Large firms are also able to enjoy lower average costs from their marketing operations.

**Purchasing economies** The larger the firm, the more likely it is to be able to buy raw materials in bulk. Bulk buying often enables these firms to receive discounts. The firms can purchase their factor inputs at lower prices and therefore this lowers their average costs.

**Risk bearing economies** The larger the firm, the more likely it is to produce a diversified range of products and/or sell in different markets around the world. If some of these products fail and make losses, other products are likely to be successful and make a profit. This spreads the risk of products failing across many products and so the firm will still be successful even if some products fail and average costs will be lower.

## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: LONG-RUN AVERAGE COST CURVES FOR VARIOUS FIRMS

| Output (million units) | Long-run average cost ($) | | | | |
|---|---|---|---|---|---|
| | Firm A | Firm B | Firm C | Firm D | Firm E |
| 1 | 10 | 20 | 16 | 19 | 20 |
| 2 | 8 | 18 | 14 | 18 | 17 |
| 3 | 5 | 16 | 15 | 17 | 15 |
| 4 | 5 | 11 | 17 | 16 | 14 |
| 5 | 5 | 10 | 20 | 15 | 14 |
| 6 | 5 | 10 | 24 | 14 | 14 |
| 7 | 6 | 11 | 30 | 13 | 14 |

▲ Table 1

For each firm, A to E, give:

1 the range of output over which there are:
(a) economies of scale; (b) diseconomies of scale
2 the optimum level or range of output
3 the minimum efficient scale of production.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: AIRLINE TAKEOVER

In 2011, the Spanish airline company Iberia merged with the UK airline, British Airways (BA). Iberia's operating costs were higher than those of BA and so there were plenty of opportunities for the new group called International Airlines Group (IAG) to cut these closer to industry averages.

However, the merger also gave savings in other areas. For example, significant savings were made by combining all or part of 'back-office' functions, such as administration, IT services and support services for planes. At individual airports, one set of staff instead of two could deal with everything apart from the airline's desk service. Where BA and Iberia flew the same routes before the merger in competition with each other, flight services could be combined when planes were less than full. Marketing too could be made more cost-effective. The group could save on marketing by advertising BA and Iberia flights together. Directing BA passengers onto Iberia flights where BA did not fly a route also reduces the cost per passenger of a flight.

In 2017, IAG posted an operating profit of €3bn, an 18 per cent increase from the previous year, and 2018 is expected to be even better. Cost cutting helps to continue to improve operating profit. In 2018, IAG made a takeover bid for Norwegian Air Shuttle, in part hoping that a larger airline would reduce average costs even further.

1 What economies of scale might IAG enjoy compared to BA, Iberia and Norwegian Air Shuttle as independent airlines?

## INTERNAL DISECONOMIES OF SCALE

Diseconomies of scale arise mainly due to management problems. As a firm grows in size it becomes more and more difficult for management to keep control of the activities of the organisation. There is a variety of ways of dealing with this problem. Some companies choose to centralise operations with a small team controlling all activities. Sometimes an individual person, often the founder of the company, will keep tight control of all major decisions. In other companies, management is decentralised with many small subsidiary companies making decisions about their part of the business and head office only making those decisions that affect the whole group. However, controlling an organisation that might employ hundreds of thousands of workers is not easy and there may come a point where no management team could prevent average costs from rising.

There are two main sources of diseconomies of scale:

- Communication problems happen when large businesses find it difficult to maintain effective communication between different departments,

divisions or even between head office and the other companies it owns. If information is not received accurately then instructions are not carried out correctly and the firm will be less efficient and average costs start to increase. For example, head office may send out instructions to one of the companies it owns but it will take time for the message to get through the many layers in the organisation's hierarchy and it may arrive too late to take advantage of a business opportunity.

- Coordination problems mean that large firms may find it difficult to ensure each department works effectively with other departments, leading to inefficiency. For example, the sales department might sell 1000 units per week but the operations department cannot produce more than 800 units per week. The sales department is larger than it needs to be to match the required size of the operations department, so some employees may not work as hard as they could, as they do not have enough to do, leading to inefficiency and increasing average costs.
- X-inefficiency arises when a firm fails to minimise its average costs of production. This is discussed in more detail in Chapter 8.

## MOVEMENTS ALONG AND SHIFTS IN THE LONG-RUN AVERAGE COST CURVE

The long run average cost curve is a boundary. It represents the minimum level of average costs achievable at any given level of output. In Figure 2, points below the LRAC curve are unachievable. A firm could produce above the LRAC boundary, but if it were to do this it would not use the most efficient method to produce any given level of output. Thus a firm could, for instance, produce at the point A, but it would be less efficient than a firm producing the same quantity at the point B.

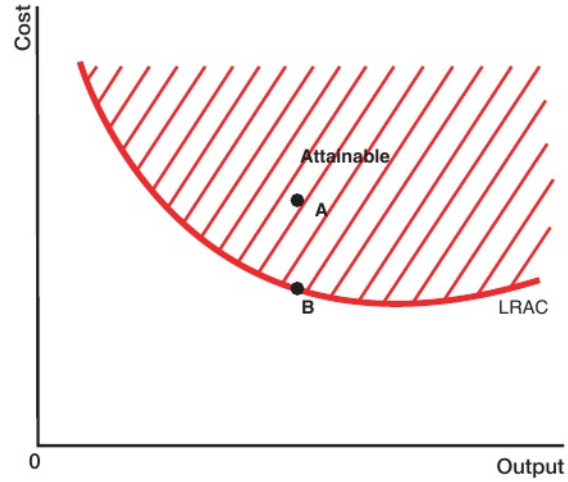
An increase in output which leads to a fall in costs would be shown by a movement along the LRAC curve. However, there is a variety of reasons why the LRAC might shift.

**External economies of scale** The economies of scale discussed so far in this chapter have been internal economies of scale. Internal economies arise because of the growth in output of the firm. External economies of scale arise when there is a growth in the size of the industry in which the firm operates.

**FIGURE 2**

**The LRAC as a boundary**

The LRAC curve is a boundary between levels of costs which are achievable and those which are unachievable. If a firm is producing on the LRAC curve, then it is producing at long-run minimum cost for any given level of output, such as at point B. If long-run production is inefficient, cost will be within the LRAC boundary such as at point A.




There are several sources of **external economies of scale**.

- The growth of a particular industry in an area might lead to the construction of a better local road network, which in turn reduces costs to individual firms. The transport of goods will be quicker so less time is spent on the road and less payment will be made to drivers of the vehicles.
- Skilled labour might be available in the area. Firms might experience lower training costs because other firms are training workers whom it can then recruit. The local government might provide training facilities free of charge targeted to the needs of a particular industry, meaning skilled workers will be available at no cost to the firm which will lower the firm's average costs.
- Sharing knowledge means firms benefit from being in the same area and help each other. An example of this could be where firms in the same area share research and development facilities, as one firm on

its own could not afford the high costs. The results will be shared with all the firms and each will gain the benefits leading to lower average costs.

- Vocational colleges may be set up in the area and that can provide easy access to training and education for workers. This will increase the efficiency of the workers and reduce average costs of firms in that industry.

External economies of scale will shift the LRAC curve of an individual firm downwards. At any given level of output, its costs will be lower because the industry as a whole has grown. All firms in the industry can benefit from these external economies of scale.

**Technology** The LRAC curve is drawn on the assumption that the state of technology remains constant. The introduction of new technology which is more efficient than the old technology will reduce average costs and push the LRAC curve downwards.

**External diseconomies of scale** These will shift the long-run average cost curve of individual firms in the industry upwards. They occur when an industry expands. Individual firms are then forced to compete with each other and the prices of factor inputs such as wages and raw materials are increased due to a shortage in supply relative to demand.

## THE RELATIONSHIP BETWEEN THE SHORT-RUN AVERAGE COST CURVE AND THE LONG-RUN AVERAGE COST CURVE

In the short run, at least one factor is fixed. Short-run average costs at first fall, and then begin to rise because of diminishing returns.

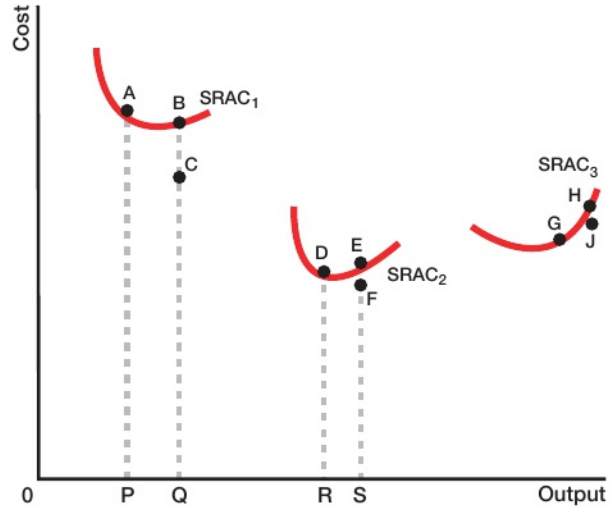
In the long run, all factors are variable. Long-run average costs change because of economies and diseconomies of scale.

In the long run, a company is able to choose a scale of production which will maximise its profits. Assume in Figure 3 that it decides to produce in the long run at point A. It buys factors of production such as plant and machinery to operate at this level. Later it wishes to expand production by PQ but in the short run it has fixed factors of production. Expanding production may well lead to lower average costs as it does in Figure 3.

**FIGURE 3**

**The long-run average cost curve**

In the long run, all factors are variable. Points A, D and G show long run cost curves at different levels of production. If the firm in the short run then expands production, average costs may fall or rise to B, E or H respectively. But they will be above the long-run costs, C, F and J, for those levels of output because the cost of production with at least one fixed factor is likely to be higher than the cost if all factors were variable.




Diminishing average returns have not set in at point A. However, production must be less cost-efficient at B compared to the long run situation where the firm could have varied all its factors of production and produced at C. At B, the firm is working with plant and machinery designed to work at optimum efficiency at a lower output level OP. At C, the firm is working with plant and machinery designed to produce at C.

Similarly, if D and F are long run cost positions, a firm producing at E with plant and machinery designed to produce at D must be less cost-effective than a firm operating at F with a factory designed to produce OS of output.

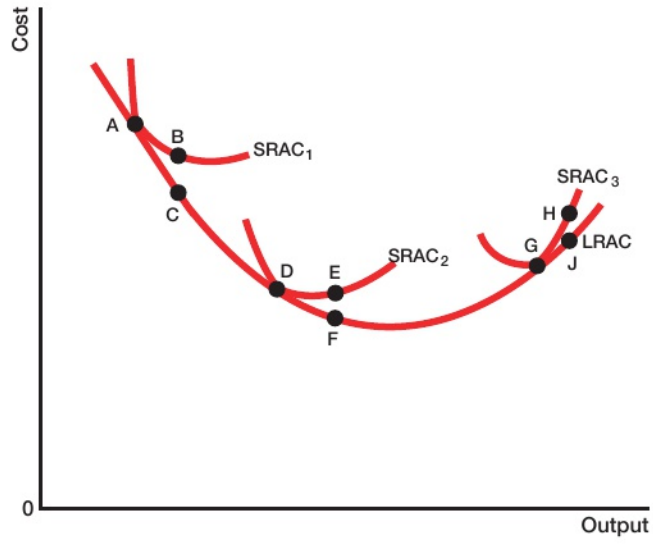
A, C, D, F, G and J are least cost points in the long run. Combining these, as in Figure 4, we get a long-run average cost curve. For each point on this curve there is an associated short-run average cost curve, such as AB. If the firm operates in the short run at the point where the short run cost curve just touches (is tangential to) the long run cost curve, then it is operating where the firm thought it would operate when it was able to vary all its factor inputs.

If short run output is different from this position, then its short run costs will be higher than if it could have varied all its factors of production.

The long-run average cost curve is said to be the envelope for the short-run average cost curves because it contains them all.

**FIGURE 4**

**The long-run average cost curve envelope**
The long-run average cost curve contains within it all the associated short-run average cost curves because long-run average cost is either equal to or below the relevant short-run average cost.

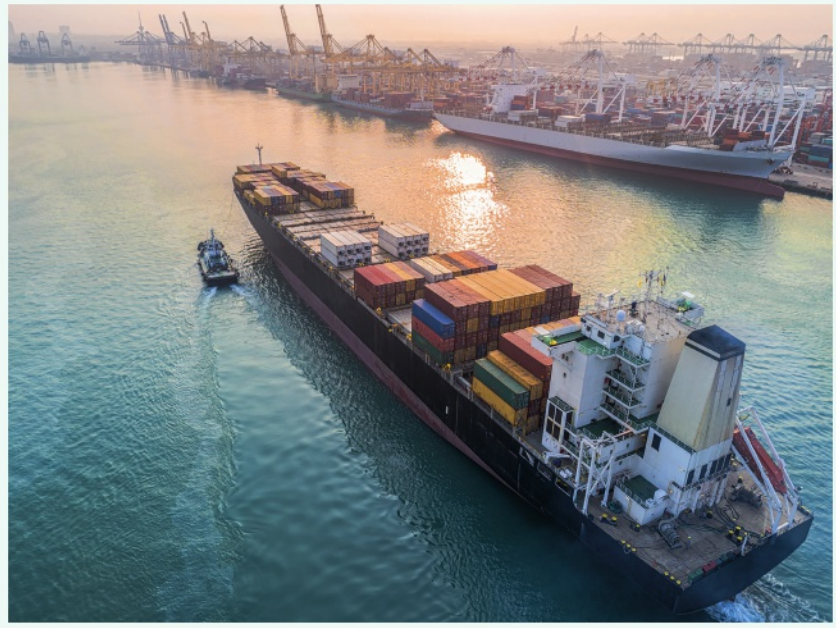



## THINKING LIKE AN ECONOMIST

### COST IN THE SHIPPING INDUSTRY

Over the past decades, ships have been getting larger and larger. This is because of economies of scale. Doubling the surface area of a ship, and therefore roughly its cost to build, leads to a more than 100 per cent increase in carrying capacity. Also, a ship that has twice the carrying capacity of another ship does not have twice the short-term costs of operation. Smaller ships will have more crew relative to the freight being carried, cost more in fuel per mile, have higher insurance premiums and more harbour charges.

The *Oceania* is one of the largest oil tankers in the world in 2018. The *Oceania* is 380 metres long, 68 metres wide and, out of water, would be 58.5 metres tall. It can carry over three million barrels of oil.



However, large ships are not necessarily profitable. Following the financial crisis of 2008, the shipping industry faced a challenging trading environment as growth in world trade slowed considerably.

Worldwide trade fell 10 per cent in 2009 and growth ever since has been slow. At the same time, ships ordered in 2007 and before were still being delivered to shipping companies. They have also carried on ordering very large ships because it gives them an extra competitive advantage in terms of costs. The result has been an oversupply of shipping and a collapse in the rates received by shipping firms for transporting goods. This is still the case in 2018, as shown by the very weak rates for oil product transports during most of 2017 and extended losses into 2018. 2017 was the worst year since 1994 with average earnings of just USD 17,800 per day, which meant money was lost every day. Even the 10 per cent increase in demand from China as it became the largest oil importer in 2017, overtaking the US, did not raise freight rates for tankers. Supply of new oil tankers grew by 5 per cent in 2017 and 2.5 per cent in 2018, leading to an excess capacity and helping to keep freight charges very low.

Shipping companies have a stock of ships and they are therefore in a short-run position. Faced with these rock bottom earnings per journey, they have responded in a variety of ways. One way is to move down the short-run average cost curve of running a ship. Fuel costs can be saved, for example, by slowing down the speed of a ship. Another way for a shipping company to minimise short-run costs is simply to lay up their most inefficient ships, i.e. anchor them in a safe place and not use them or turn them into storage tankers. By using the most efficient ships in their fleet, they can save on costs such as fuel and crew. By adopting these strategies, they may be operating above their long-run average cost curves, but they are at least on their short-run average cost curve.

## CHECKPOINT

1. Draw a long-run average cost curve.
2. What happens to average cost when a firm benefits from economies of scale?
3. Outline six internal economies of scale, using examples.
4. What is the difference between internal economies of scale and external economies of scale?
5. Give three examples of diseconomies of scale.
6. Give three examples of external economies of scale.
7. Outline the relationship between the short-run average cost curve and the long-run average cost curve.

## SUBJECT VOCABULARY

**diseconomies of scale** a rise in the long-run average costs of production as output rises

**economies of scale** A fall in the long-run average costs of production as output rises

**external economies of scale** falling average costs of production, shown by a downward shift in the average cost curve, which result from a growth in the size of the industry within which a firm operates

**internal economies of scale** economies of scale which arise because of the growth in the scale of production within a firm

**minimum efficient scale (MES) of production** the lowest level of output at which long-run average cost is minimised

**optimal level of production** the range of output over which long-run average cost is lowest

**per annum** per year

# EXAM PRACTICE

## SHOPPING AROUND

Google has entered Asia's ecommerce market by buying a $550m stake in China's second-largest online retailer, JD.com. The investment will allow the US internet company, Google, to enter two areas where it has so far failed to have much success: online shopping and China.

The purchase of a share in JD.com is likely to be the beginning of a better trading relationship with China for Google. (Google's search engine has been blocked in China since 2010.) Google and JD.com's partnership will, the companies say, focus on expansion in the US, Europe and South-East Asia. Total sales are expected to increase and the companies hope to benefit from internal economies of scale.

This could be beneficial for both companies. JD.com will gain access to Google's vast database of customers who use its services, and can use this to market JD.com's services at a low cost. Google can use JD.com's ecommerce expertise in South-East Asia, one of the few fragmented online retail markets left. However, Alibaba is the largest online retailer in China, with $500bn of revenue. It dominates the Chinese market and is partly the reason for JD.com wanting to seek out an international company to help it grow and become more competitive. The larger business will also find it easier to raise finance for expansion.

JD.com is the world's leading company in high tech and AI (Artificial Intelligence) delivery. It uses drones, automated vehicles and robots in its warehouses, and possesses the world's largest drone delivery system. It uses a centralised warehouse system for distribution of its ecommerce orders rather than having many smaller warehouses across China. It has recently opened a huge automated warehouse in Shanghai. It receives stock which is then rapidly processed and sent out for delivery to many areas of China, both rural and urban. This new warehouse can handle 200,000 orders a day but employs just four people, with their jobs centred around servicing the robots that run the place. JD.com is confident it can provide same-day delivery to even the remotest places across China, provided the order comes in before 11am that day. Revenues at JD.com had been rising but high costs have been keeping profit margins low. JD.com hopes to benefit from economies of scale and see its profit margins improve.

Q

1 Define 'internal economies of scale'. **(2 marks)**

2 Explain the difference between fixed costs and variable costs using online retailer JD.com as an example. **(4 marks)**

3 Analyse two possible internal economies of scale that JD.com might experience after its alliance with Google. Illustrate your answer with a diagram. **(6 marks)**

4 Discuss whether JD.com will definitely have lower average costs if it uses an automated main centralised warehouse distribution model for its online retail business. **(14 marks)**

**EXAM HINT**

In your answer to Question 4, you need to distinguish between the various types of cost – total, average or marginal. Would they have lower short-run costs or long-run costs? Would costs be lower if they set up an automated warehouse distribution system or used several smaller warehouses across the country? You could use a diagram showing the long-run average cost as an envelope for short-run cost curves to analyse the situation.

# 7 PROFITS AND LOSSES

UNIT 3
3.3.2

## LEARNING OBJECTIVES

- Understand the difference between normal profit, supernormal profit and losses
- Know the difference between short-run and long-run shut down points

## GETTING STARTED

When you leave full-time education, you could get a job with a starting salary of $25,000 a year. Alternatively, you could set up your own business., where you don't pay yourself a salary. Assume that, to set up your business, you use $20,000 left to you by a relative, money which had been earning 3 per cent interest a year in a bank account. What is the ideal ratio of costs to revenues in the business (a) in the first year and (b) in the long term?

## PROFIT

**Profit** is the difference between revenue (the receipts of the firm) and costs (cash paid out by the firm). A firm will make maximum profit when the difference between total revenue and total cost is greatest.

In Table 1, total revenue is shown in the second column while total cost is in the third column. Profit is the difference between the two. At low levels of production, the firm makes a loss. The break-even point, where total revenue equals total cost, is reached at an output level of three units. Profit then increases as output increases, until an output of 6. At higher levels of production, profit decreases again until, at an output of 9, the firm makes a loss.

| Output | Total revenue ($) | Total cost ($) | Profit ($) |
|---|---|---|---|
| 1 | 25 | 35 | –10 |
| 2 | 50 | 61 | –11 |
| 3 | 75 | 75 | 0 |
| 4 | 100 | 90 | 10 |
| 5 | 125 | 106 | 19 |
| 6 | 150 | 123 | 27 |
| 7 | 175 | 148 | 27 |
| 8 | 200 | 182 | 18 |
| 9 | 225 | 229 | –4 |

▲ Table 1

## NORMAL AND SUPERNORMAL PROFIT

Cost for an economist is different from that for an accountant or business. The economic cost of production is its opportunity cost. It is measured by the benefit that could have been gained if the resources employed in the production process had been used in their next most profitable use.

If a firm could have made $1 million profit by using its resources in the next best way, then the $1 million profit is an opportunity cost for the firm. In economics this profit, which is counted as an economic cost, is called **normal profit**.

If the firm failed to earn normal profit, it would cease to produce in the long run. The firm's resources would be put to better use producing other goods and services where a normal profit could be earned. Hence, normal profit must be earned if factors of production are to be kept in their present use, i.e. it is the minimum return an entrepreneur would be willing to accept to remain in the current business.

**Supernormal profit** (also called pure profit, or abnormal profit) is the profit over and above normal profit (i.e. the profit over and above the opportunity cost of the resources used in production by the firm). It is important to remember that the firm earns normal profit when total revenue equals total cost. However, total revenue must be greater than total cost if it is to earn supernormal profit.

## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: CALCULATE ACCOUNTING AND NORMAL PROFIT

Liam leaves his $70,000 a year job to set up a company from which he draws a salary of $30,000 in its first year, $50,000 in its second year and $70,000 in its third year. He puts $50,000 of his own savings into the company as start-up capital which previously had been invested and could earn a rate of return of 10 per cent per annum. Accountants declare that the costs of the firm over the first 12 months were $250,000, $280,000 in the next 12 months and $350,000 in the third year. Revenues were $270,000 in the first year, $310,000 in the second year and $450,000 in the third year.

**1** For each year, find the firm's: (a) accounting profit; (b) normal profit.

In Table 1, there are two levels of output where profit is highest at $27. However, the profit separated out in the table is supernormal profit. Normal profit is included as part of total cost. Therefore the firm will choose to produce at the higher of the two levels of output, at seven units. The seventh unit of output does not increase supernormal profit because this is zero on the seventh unit. But it increases the amount of normal profit. Therefore producing seven units rather than six units will increase total normal profit.

## PROFIT MAXIMISATION: THE MC = MR RULE

Marginal cost and marginal revenue can also be used to find the profit maximising level of output. Marginal cost is the addition to total cost of one extra unit of output. Marginal revenue is the increase in total revenue resulting from an extra unit of sales.

LINK Student Book 1, Chapter 6

Table 2 shows the marginal cost and marginal revenue figures derived from Table 1. Marginal revenue minus marginal cost gives the marginal profit, which is the extra profit to be made from producing one more unit of output. The firm makes a loss of $10 on the first unit, and $1 on the second. The third unit of output yields a profit of $11, the fourth $10 and so on. So long as the firm can make additional profit by producing an extra unit of output, it will carry on expanding production. However, it will cease extra production when the extra unit yields a loss (i.e. where marginal profit moves from positive to negative). In Table 2, this happens at an output level of seven units. The seventh unit contributes nothing to supernormal profit.

| Output | Marginal revenue ($) | Marginal cost ($) | Addition to total profit ($) |
|---|---|---|---|
| 1 | 25 | 35 | –10 |
| 2 | 25 | 26 | –1 |
| 3 | 25 | 14 | 11 |
| 4 | 25 | 15 | 10 |
| 5 | 25 | 16 | 9 |
| 6 | 25 | 18 | 7 |
| 7 | 25 | 25 | 0 |
| 8 | 25 | 34 | –9 |
| 9 | 25 | 47 | –22 |

▲ Table 2

## ACTIVITY 2

SKILLS PROBLEM-SOLVING

### CASE STUDY: CALCULATE MAXIMUM PROFIT

| Output (million units) | Total revenue ($ million) | Total cost ($ million) | Total profit ($ million) | Marginal revenue ($ million) | Marginal cost ($ million) |
|---|---|---|---|---|---|
| 1 | 10 | 8 | | | |
| 2 | 20 | 14 | | | |
| 3 | 30 | 20 | | | |
| 4 | 40 | 30 | | | |
| 5 | 50 | 50 | | | |
| 6 | 60 | 80 | | | |

▲ Table 3

1 Find the total profit at each level of output.
2 What is the profit maximising level of output?
3 Find the marginal revenue and marginal cost of production at each level of output.
4 Using the data, show why MC = MR at the profit maximising level of output.

However, as explained above, cost includes an allowance for normal profit and therefore the firm will actually produce the seventh unit. The eighth unit yields a loss of profit of $9. The firm will therefore not produce the eighth unit if it wishes to maximise its profit.

Economic theory thus predicts that profits will be maximised at the output level where marginal cost equals marginal revenue.

## COST AND REVENUE CURVES

These same points can be made using cost and revenue curves. The revenue curves in Figure 1 are drawn on the assumption that the firm receives the same price for its product however much it sells (i.e. demand is perfectly price elastic). So the total revenue curve increases at a constant rate. The marginal revenue curve is horizontal, showing that the price received for the last unit of output is exactly the same as the price received for all the other units sold before.

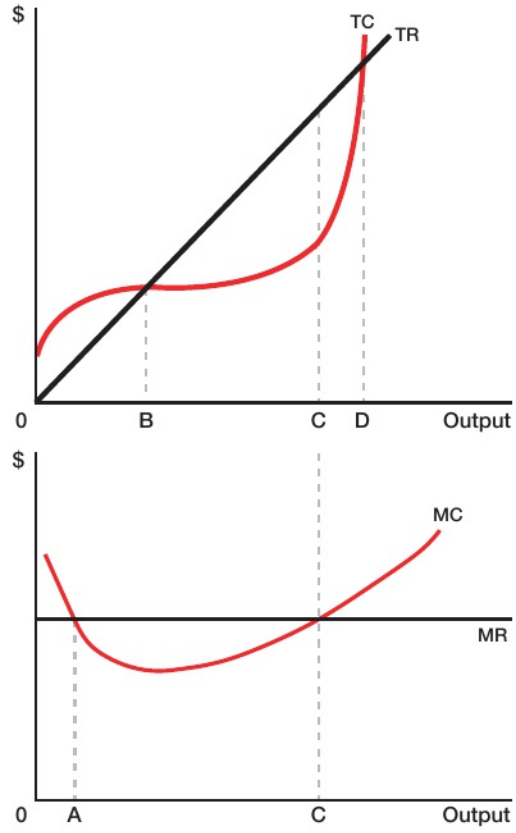
The total revenue and total cost curves show that the firm will make a loss if it produces between 0 and B, because total cost is higher than total revenue. B is the break-even point. Between B and D the firm is in profit because total revenue is greater than total cost. However, profit is maximised at the output level C where the difference between total revenue and total cost is at a maximum. If the firm produces more than D, it will start making a loss again. D, the second break-even point on the diagram, is the maximum level of output which a firm can produce without making a loss. So D is the sales maximisation point subject to the constraint that the firm should not make a loss.

Now consider the marginal cost and marginal revenue curves. It can be seen that the profit maximising level of output, 0C, is the point where marginal cost equals marginal revenue. If the firm produces an extra unit of output above 0C, then the marginal cost of production is above the marginal revenue received from selling the extra unit. The firm will make a loss on that extra unit and total profit will fall. On the other hand, if the firm is producing to the left of 0C the cost of an extra unit of output is less than its marginal revenue. Therefore the firm will make a profit on the extra unit if it is produced. Generalising this, we can say that the firm will expand production if marginal revenue is above marginal cost. The firm will reduce output if marginal revenue is below marginal cost.

It should be noted that there is another point in Figure 1 where MC = MR. This is at the point A. It isn't always the case that the marginal cost curve will start above the marginal revenue curve at the lowest level of output. However, if it does, then the first intersection point of the two curves, when marginal cost is falling, is not the profit maximising point. The MC = MR rule is therefore a necessary but not sufficient condition for profit maximisation. A second condition has to be attached, namely that marginal cost must be rising as well.

**FIGURE 1**

**The profit maximising level of output**
Profit is maximised at the level of output where the difference between total revenue and total cost is at its greatest, at 0C. This is the point where marginal cost equals marginal revenue. 0B and 0D are break-even points.




## ACTIVITY 3

SKILLS PROBLEM-SOLVING

### GRAPHS OF TOTAL COST AND TOTAL REVENUE & MARGINAL COST AND MARGINAL REVENUE

1 From the data in Table 3, draw two graphs showing (a) total revenue and total cost curves and (b) marginal revenue and marginal cost curves. Draw the graphs one underneath the other using the same scale on the output axis. (Remember to plot MR and MC half way between the two points).
2 Mark on each of the graphs (a) the break-even levels of output and (b) the profit maximising level of output.

## SHIFTS IN COST AND REVENUE CURVES

It is now possible to analyse in greater depth the effects of changes in costs or revenues on output. Assume that costs, such as the price of raw materials, increase. This will mean that the marginal cost of production at every level of output will be higher. The marginal cost curve will shift upwards as shown in Figure 2. The profit maximising level of output will fall from $0Q_1$ to $0Q_2$. Hence a rise in costs will lead to a fall in output.

**FIGURE 2**

**An increase in costs**

An increase in costs of production which pushes up the marginal cost curve from $MC_1$ to $MC_2$ will lead to a fall in the profit maximising level of output from $0Q_1$ to $0Q_2$.

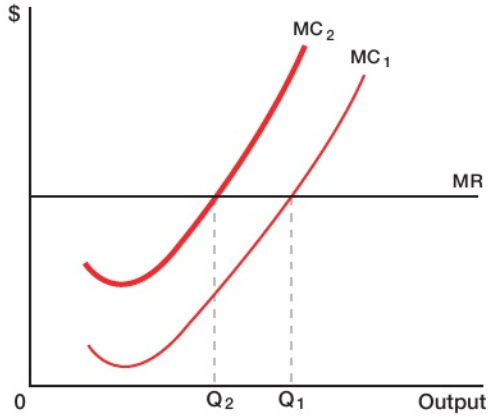
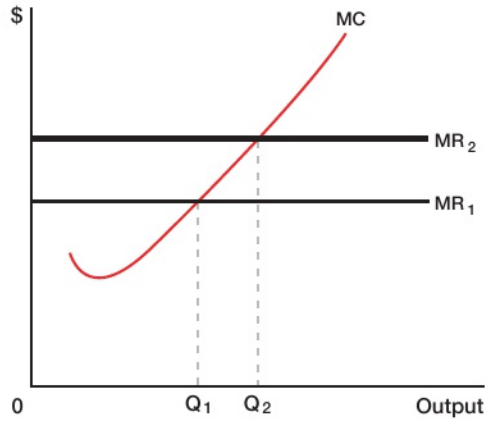



**FIGURE 3**

**An increase in revenue**

An increase in revenue at any given level of output will push the marginal revenue curve upwards from $MR_1$ to $MR_2$. This will lead to a rise in the profit maximising level of output from $0Q_1$ to $0Q_2$.




On the other hand, a rise in revenue will lead to an increase in output. Assume that revenue increases at every given level of output. Perhaps consumers are prepared to pay higher prices because their incomes have increased, or the good has become more fashionable to purchase. This will push the marginal revenue curve upwards as shown in Figure 3. The profit maximising level of output will then rise from $0Q_1$ to $0Q_2$.

## ACTIVITY 4

SKILLS: PROBLEM-SOLVING, REASONING, ANALYSIS

### PROFIT MAXIMISING OUTPUT

Consider the data in Table 3. What is the new profit maximising level of output if:

1. marginal revenue falls to $6 million at each level of output
2. marginal revenue increases to $20 million at each level of output
3. marginal cost increases by $4 million at each level of output
4. total cost increases by $5 million at each level of output
5. total revenue increases by 2 times at each level of output?

## SHUT DOWN POINTS IN THE SHORT RUN AND LONG RUN

Firms are not always able to operate at a profit. They may be faced with operating at a **loss**. Neo-classical economics predicts that firms will continue in production in the short run so long as they can cover their variable costs, for example they are still able to pay their suppliers.

Consider Table 4. The company would lose $20 million in any period in which it shut down its plant and produced nothing. This is because it still has to pay its fixed costs of $20 million even if output is zero. Total fixed costs represent the maximum loss per period for a company.

The table shows that the firm is facing a steadily worsening trading situation. Its costs remain the same throughout, but each period its revenue declines. In period 1, total revenue exceeds total costs. The firm makes a profit of $10 million if production takes place. In period 2, it makes no profit by operating its plant (although it should be remembered that cost includes an allowance for normal profit).

However, this is better than the alternative of shutting down and making a $20 million loss. So too is producing in period 3. Although the company makes a

| $ million | | | | | | |
|---|---|---|---|---|---|---|
| Period | Total variable cost | Total fixed cost | Total cost | Total revenue | Profit or loss | |
| | | | | | If production takes place | If plant is shut down |
| 1 | 30 | 20 | 50 | 60 | +10 | –20 |
| 2 | 30 | 20 | 50 | 50 | 0 | –20 |
| 3 | 30 | 20 | 50 | 40 | –10 | –20 |
| 4 | 30 | 20 | 50 | 30 | –20 | –20 |
| 5 | 30 | 20 | 50 | 20 | –30 | –20 |

▲ Table 4

loss of $10 million, it will continue to produce because the alternative to not producing is a loss of $20 million. In period 4, the company is on the dividing line between whether to produce or not. In period 5, the company will clearly not produce. Its operating losses would be greater than if the plant was shut down.

So short-run profit maximisation suggests that a firm will continue to produce even if it is not fully covering its total costs. It will only shut down production when its total revenue does not cover its total variable cost, for example it cannot pay its suppliers or its workers and therefore the firm will have no raw materials or workers to produce the output.

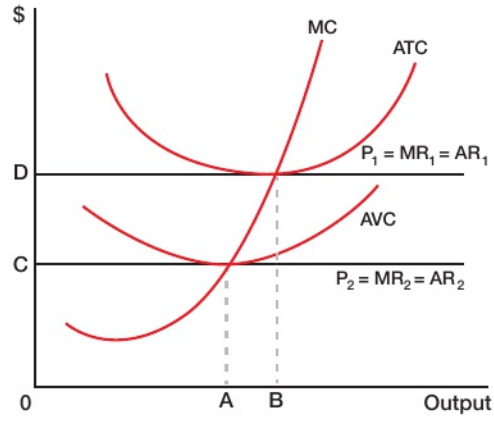
This can be shown on a diagram. In Figure 4, short-run average cost and revenue curves are shown. The average fixed cost is the vertical distance between the average variable and average total cost curves. Price is assumed to be constant whatever the number of units that are sold. Because of profit maximisation, the firm will produce where MC = MR.

- If price, $P_1$, is 0D, the firm will cover its costs and make normal profit on output 0B.
- If price is higher than 0D, it will produce more than 0B and earn supernormal profit.
- If price is between 0C and 0D, it will not cover both its variable and fixed costs. However, the price will be higher than average variable cost. Hence, in the short run, sales will make a contribution to paying fixed costs.
- 0C is the lowest price at which the firm will produce in the short run. At price $P_2$, or 0C, no contribution is made to paying fixed costs but the firm is earning the normal profit element included in costs.
- Below a price of 0C, the firm will shut down. Its losses from continuing in production will be greater than the losses made by shutting down. Not only is it not covering its fixed costs but it is not even covering its variable costs.

Point A is called the **short-run shut down**. If Figure 4 showed long-run costs, the **long-run shut down** would be 0B. In the long run, all costs are variable and so the average (total) cost curve is the same as the average variable cost curve. Price will have to be at least 0D for the firm to produce, otherwise it will be shut down. For example in the long run if the firm cannot pay its rent it will be removed from

**FIGURE 4**

**Short-run and long-run shut down points**
In the short run, a firm will shut down if the price it receives falls below 0C. Below 0C, the price will not even cover its variable costs. In the long run, when all costs are variable, the shut down price is 0D.




## ACTIVITY 5

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: SHUT DOWN

A profit maximising company has fixed costs of $10 million. Its variable costs increase at a constant rate with output. The variable cost of production of each unit is $1 million. Show whether it will produce:

1 10 units if total revenue is $30 million
2 15 units if total revenue is $25 million
3 20 units if total revenue is $22 million.

its premises, or if it cannot pay its taxes then the government will shut it down.

LINK Student Book 1, Chapter 7

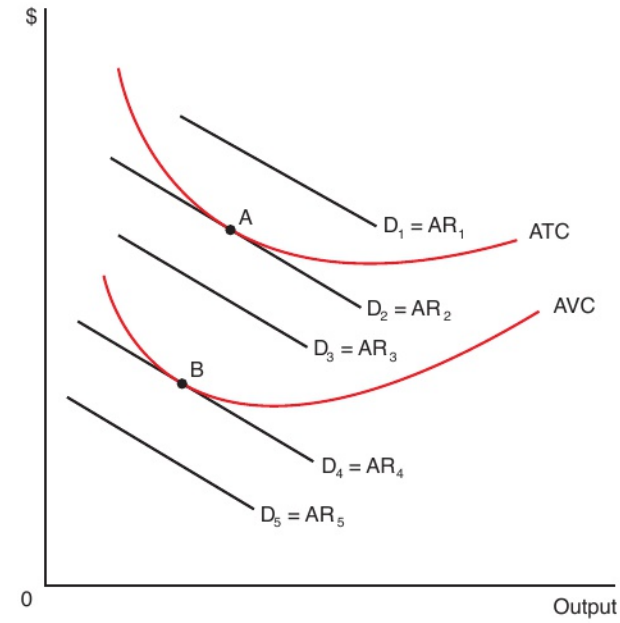
The same analysis can be used if the average revenue curve or demand curve is downward sloping. In Figure 5, the average total cost and average variable cost curves are drawn. Five different possible average revenue or demand curves are also drawn.

- Along $AR_1$, there are many levels of output where average revenue is greater than average cost. The firm will definitely produce somewhere along this line because it will be able to make supernormal profit.
- Along $AR_2$, there is just one point, A, where average revenue equals average cost. This will be the profit maximising point for the firm. It will earn normal profit, but not supernormal profit. The point A, where the AR and AC curves are tangential, is the long-run shut down point. If AR is below this, it will not produce in the long run.
- Along $AR_3$, at every level of output, average (total) cost is greater than average revenue. So it will always make a loss. But there are many levels of output where average revenue is greater than average variable cost. In the short run, it will therefore continue to produce, because at least it is making some contribution to paying fixed costs.
- Along $AR_4$, there is just one point, B, where average revenue equals short-run average cost. This is the short-run shut down point. If average revenue is any lower, the firm will not even cover its average variable cost and so it will not produce.
- Along $AR_5$, there is no point where average revenue even covers average variable costs, let alone average (total) cost. So the firm will not produce if faced with this average revenue line.

**FIGURE 5**

**Different average revenue curves will give different profit outcomes**

The position of the average revenue curve in relation to average cost curves will determine whether the firm makes supernormal profit ($AR_1$), normal profit ($AR_2$), or a short-run loss ($AR_3$). The shut down point is along $AR_4$ and the firm would not produce with $AR_5$.




## ACTIVITY 6

SKILLS PROBLEM-SOLVING, REASONING

### THE OUTPUT NEEDED TO COVER ALL COSTS

A firm has total fixed costs of $900 and variable costs of $1 per unit.

1 What will be the price per unit if the firm manufactures 300 units a week and makes a 25 per cent profit above costs?
2 Demand is not as high as the company hoped. If it maintains its price, what is the minimum number of units that must be sold per week if the company is to cover all its costs?
3 Demand is 150 units per week. The company is offered an order for an extra 350 units a week if it reduces its price on all units sold to $3 per unit. However, it believes that demand will slowly increase in the future to the planned 300 units a week if the original price is maintained. Should the firm accept the order?

## THINKING LIKE AN ECONOMIST

### E.ONWARDS AND UPWARDS – A CHANGING WORLD FOR ENERGY FIRMS

E.ON is one of the world's largest private electric utility service providers. It used to generate electricity from fossil fuels such as gas, coal and oil and nuclear plants and bought additional energy from other electricity generators. It also supplied electricity to households. It was Germany's second-biggest company and was very successful in achieving profits each year. This meant it could generate its own electricity to sell to households and if demand was greater than the quantity of electricity it produced, E.ON would buy additional electricity from other companies. This additional electricity was often at a higher cost than the electricity it generated itself but it was still at a much lower cost than the price it charged customers. Therefore, higher demand for electricity and high prices meant E.ON made a good profit.

After the accident at the nuclear plant at Fukushima, Japan, the German government announced all its nuclear power plants must be shut down by 2022. This meant E.ON had to change the type of electricity plants it operated or buy most of its electricity from other companies. Even though there was a lot of government financial support for renewable energy generation and wholesale electricity prices were lower than they had been, E.ON's profits fell by a large amount. In 2016, E.ON announced its biggest-ever loss.

However, by 2018, E.ON had changed to gaining 80 per cent of its revenue from supplying electricity to households rather than generating electricity itself. It became one of Europe's largest operators of power distribution for consumer-energy supply by number of customers (50m customers). It has benefited from the falling cost of wind and solar power and an increase in demand from the rise of electric vehicles (EVs). E.ON will take the lead in power distribution in Germany and consumers will move over to using electric vehicles.

Having most of E.ON's operating revenues coming from gas and electricity supply to customers and not from electricity generation will ensure stable revenue and higher profits. The company expects €600m–800m a year of cost savings from changing to buying its supplies of energy from more renewable sources. This will compensate the decline in its earnings from generating its own electricity from nuclear power stations.

In 2018, E.ON announced a large increase in profits. Consumers pay a high price for electricity in Germany but prices are unlikely to increase further. This lack of further price rises will limit future increases in profit for E.ON unless it can find more ways to reduce its costs.

## CHECKPOINT

1. What is the difference between normal profit and supernormal profit?
2. Why does an economist consider normal profit to be part of total cost?
3. Why can an accountant think a firm is making a profit when an economist does not?
4. Why is profit maximised when MC=MR?
5. Why might a firm not shut down in the short run when it is making a loss?
6. When will a firm shut down in the long run?

## SUBJECT VOCABULARY

**long-run shut down** where normal profit is not being earned in the long run

**loss** where total cost is greater than total revenue

**normal profit** the profit that the firm could make by using its resources in their next best use. Normal profit is an economic cost

**profit** the difference between total revenue and total cost

**short-run shut down** where variable costs are not being covered

**supernormal profit** the profit over and above normal profit

# EXAM PRACTICE

## SEARS HOLDINGS PLANS MORE THAN 100 NEW STORE CLOSURES

The US retailer Sears Holdings – which operates Sears department stores and the discount Kmart chain – announced that it expects to close roughly 100 additional stores by spring 2018, adding to the hundreds of stores it shut in 2017 as it attempts to cope with the rise of ecommerce. The company said that it planned to close 64 Kmart stores and 39 Sears stores between March and April, 2018.

The once significant American retail brand has been aggressively shrinking its physical stores to keep operating in spite of heavy losses. It has made more than $11bn in losses over the past seven years. Sears closed several hundred stores in 2017 and had already announced last year that it planned to close another 63 Kmart and Sears stores in late January of 2018. The company operated about 1100 stores as of November 2017. The department store Macy's said it would close seven more stores as it too looks to cut costs and reduce its physical presence to survive the tough retail environment.

**1** Which one of the following shows that Sears is making a loss? **(1 mark)**
- (a) Total cost is lower than total revenue
- (b) Total cost calculated by an economist is higher than the total cost calculated by an accountant
- (c) Normal profit is less than supernormal profit
- (d) Total revenue is less than total variable cost

**2** Explain, using the US retail industry as an example, what is meant by 'profit'. **(4 marks)**

**3** Analyse why, in the short run, a US retail firm might keep stores open despite making losses. **(6 marks)**

**4** Evaluate whether further closures of US retailing stores in 2018 were inevitable. **(20 marks)**

**EXAM HINT**

Explain why US retail stores would be forced to close using the concepts of costs, revenues and shut down points, and a diagram. Then explain what would have to happen if existing stores were to remain open in terms of costs and revenues. Is it inevitable that these events would never happen? Assess the likely probability that supply and demand conditions will change in the US retailing industry.

# MARKET STRUCTURES AND CONTESTABILITY

This section starts by looking at the meaning of efficiency and then goes on to examine, using concentration ratios, whether large firms dominate markets. A more in-depth consideration of different market structures forms the main part of this section: their assumptions, how firms behave in these different markets and whether the firms are efficient. These market structures include perfect competition and monopolistic competition, where there are many firms in the market, and also markets where large firms dominate, including monopoly, monopsony and oligopoly. Finally, it analyses contestability and its implications for the behaviour of firms.

# 8 EFFICIENCY

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the concepts of allocative efficiency, productive efficiency, dynamic efficiency, X-inefficiency
- Understand efficiency and inefficiency in different market structures

## GETTING STARTED

Name a firm from which you buy goods or services. It could be a local shop, the local bus company or an internet provider. Do you think it is run efficiently? If not, why do you think it isn't run efficiently? What could it do to be thought of as efficient? In your answers, think about costs and whether it provides what customers want to buy.

## EFFICIENCY

LINK Student Book 1, Chapter 2

The market mechanism allocates resources, but how well does it do this? One way of judging this is to consider how efficiently it resolves the three fundamental questions in economics of how, what and for whom production should take place. Efficiency is concerned with how well resources, such as time, talents or materials, are used to produce an end result. In economic terms, it is concerned with the relationship between scarce inputs and outputs. There are a number of different forms of efficiency which need to be considered.

## ALLOCATIVE EFFICIENCY

LINK Student Book 1, Chapter 11

**Allocative efficiency** measures whether resources are allocated to those goods and services demanded by consumers. For example, are there enough foreign holidays being sold? Are too many shoes being produced in the economy but not enough jackets? Should there be more Belgian chocolates on supermarket shelves and less rice? The basic economic problem is that resources are scarce while wants are infinite. There is allocative efficiency when scarce resources are used to produce a set of goods that satisfies consumer preferences and maximises their welfare.

Economic theory suggests that there will be allocative efficiency in a market when the marginal benefit received from consumption is equal to the marginal cost of production. The marginal benefit is shown by the price consumers are willing to pay for the last good consumed. It is shown by the demand curve for a good. So there is allocative efficiency when the price of the product is equal to its marginal cost of production (P = MC).

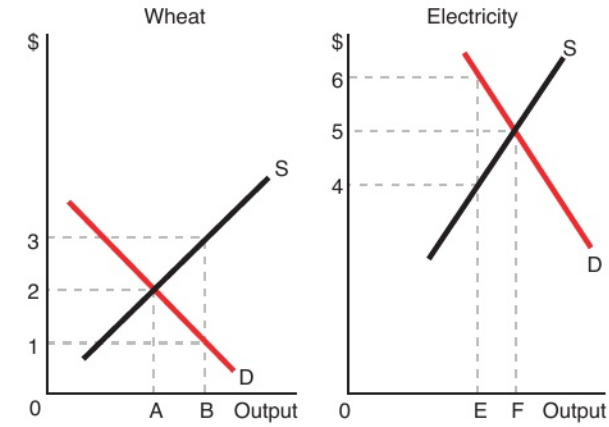
In Figure 1, two markets are shown. In the wheat market, current output is 0B. The market price is $1 per unit, but farmers receive $3 per unit, for instance because the government subsidises production. In the electricity market, output is 0E. The price is $6 but electricity suppliers receive only $4, for instance because the government imposes a $2 tax per unit.

In the wheat industry, price is below marginal cost (P < MC). This means that the value that consumers place on the product is less than the cost of producing the product. Consumers value the last unit produced at 0B at $1 (shown on the demand curve). The cost of producing the last unit is $3 (shown on the marginal cost curve). Therefore consumers value the last unit of wheat purchased at $2 less than it costs to produce.

In the electricity market, price is above marginal cost (P > MC). This means that the value consumers place on the last unit produced is more than the cost of its production. Consumers value the last unit

**FIGURE 1**

**Allocative efficiency**
Transferring resources from the wheat market where price is below marginal cost to the electricity market where price is above marginal cost will lead to allocative efficiency.



produced at OE at $6 while its cost is only $4. Hence consumers value the last unit of electricity purchased at $2 more than it cost to produce.

This suggests that scarce resources would be more efficiently allocated if less wheat and more electricity were produced in the economy, but how much wheat and electricity should be produced? If price is equal to marginal cost in both markets (P = MC), then consumers value the last unit consumed of both wheat and electricity as much as it costs to produce those commodities. If the price of wheat in Figure 2 was $2 and electricity $5, then it would be impossible to reallocate resources between the two industries to the advantage of consumers.

Hence allocative efficiency will exist if price is equal to marginal cost in each industry in the economy.

Allocative efficiency does not mean that incomes are distributed equitably or fairly. For every combination of income distribution in a society, there will be a distribution of resources that is allocatively efficient. A society that is highly unequal will have a different allocatively efficient distribution of resources from one that is highly equal.

## PRODUCTIVE EFFICIENCY

**Productive efficiency** exists when production is achieved at lowest average cost. There is productive inefficiency when the cost of production is above the minimum possible given the current state of knowledge. For instance, a firm which produces one million units at a cost of $10,000 would be productively inefficient if it could have produced that output at a cost of $8000.

This can be illustrated on an average cost curve diagram. Figure 2 shows the average cost for a firm. It is productively efficient if it is producing OA at an average cost of OE. If it produces OD at an average cost of OF, it is productively inefficient, producing too much because OF is not the lowest average cost possible. The same argument applies if it produces at output OC at an average cost of OF. In this case, however, it is producing too little to be productively efficient.

There will also be productive inefficiency if the firm produces within its average cost curve boundary. If the firm is operating at point H, then output is OB and average cost is OG. It is then productively inefficient for two reasons. First, at point H, it is not achieving the lowest average cost possible as shown by the average cost curve. Second, even if it was producing on the average cost boundary, production of OB would be too low to achieve minimum average cost.

In Figure 2, OA is the productively efficient level of output whether the average cost curve is the short-run average cost curve or the long-run average cost curve. A firm is productively efficient in the short run if it is operating on the bottom of its short-run average cost curve. It is productively efficient in the long run if it is operating on the bottom of its long-run average cost curve.

### ACTIVITY 1

SKILLS REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING

#### CASE STUDY: ALLOCATION OF SCHOOL PLACES

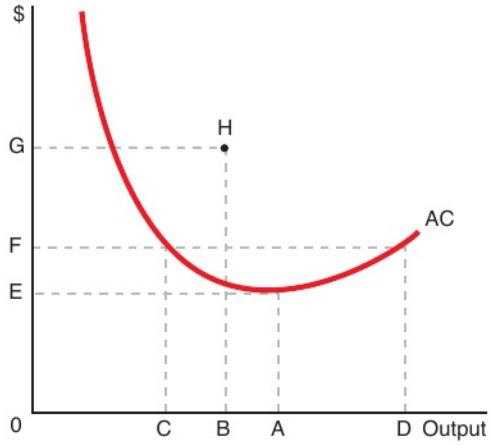
In some areas of Sri Lanka, some state schools are over-subscribed. This means that there are more children wanting to attend the school than there are places available. In such circumstances schools have to choose their students according to admission rules. These are often based on how close children live to the school, with children living close to the school being offered a place. (There are also other admission rules that may be based on ability.) The use of distance to the school might not be the most efficient way of allocating places. Another way could be to give each child in the country a voucher worth a certain value, which is handed over to their school and used by the school to pay for the expenses of running the school. Oversubscribed schools could charge fees over and above the value of the voucher. The size of the fee would be fixed to limit the number of pupils at the school to the number of places offered. Just as in, say, the market for used cars, if some cars are more popular than others then car sellers can charge higher prices, so would be the case in the education market. Resources will thus be efficiently allocated.

1 Why might it be argued that there is allocative inefficiency in areas where some schools are oversubscribed?
2 What might be the advantages and disadvantages to Sri Lanka of introducing a voucher and fee system in education?

**FIGURE 2**

**Productive efficiency**

For a firm, productive efficiency only occurs when production takes place at lowest average cost. In this case it is at an average cost of OE and an output level of OA.




For an economy as a whole, there is productive efficiency if it is operating on its production possibility frontier. To understand why, consider what would happen if one competitive firm in the economy was productively inefficient. The inefficient firm would use up too many resources to produce its output. Either by expanding or contracting output, or closing down and allowing its production to be taken over by other firms in the industry, average costs could be reduced to a minimum, so releasing resources to be used elsewhere in the economy. There is no possibility of gaining any extra production in the economy if all firms are producing at lowest cost. Hence, there must be productive efficiency only when the economy is operating on its production possibility boundary.

## DYNAMIC EFFICIENCY

There is **dynamic efficiency** in an economy when resources are allocated efficiently over time. Productive and allocative efficiency, in contrast, are examples of static efficiency. This is efficiency at a point in time.

One example of dynamic efficiency concerns the rate of investment. Firms invest either to cut costs or to make new products. Investment can be in research and development, in machinery or buildings, or in training workers. The rate of investment by firms is determined by a number of typically short-run considerations such as levels of demand in the economy, interest rates and their past profitability. Dynamic inefficiency can occur if firms fail to take into account all the future costs and benefits of investment. With research and development, which can take a very long time before the investment is repaid, firms may take no account of revenues to be received after, say, five years because they regard these benefits as too uncertain. But if all firms do this, there will be underinvestment in the economy as a whole in long-term research and development. This will reduce the socially optimal rate of technological change over time and hence reduce the pace of innovation.

With the training of workers, firms may choose to attract workers from firms that have good training programmes for their workers, rather than increase their costs by training workers themselves. If all firms do this, there will be underinvestment in training in the economy.

Figure 3 shows the effects of dynamic efficiency on the long-run average cost curve over time. LRAC1 relates to one period of time and LRAC2 is for another period of time. For example, LRAC1 could be for 2010 and LRAC2 could be for 2018 assuming dynamic efficiency had taken place.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING

### CASE STUDY: OUTSOURCING

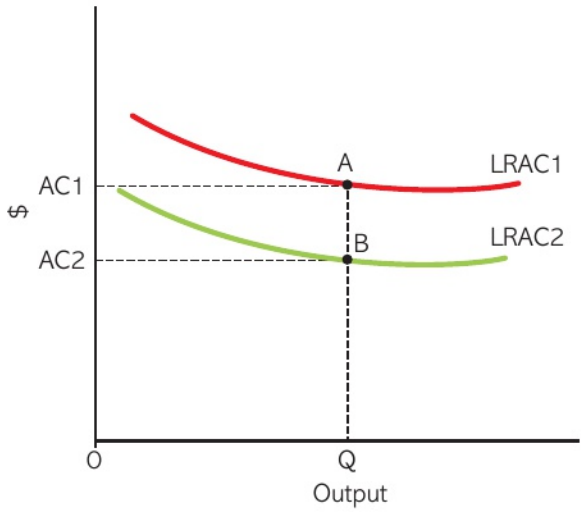
Traditionally, airlines have kept their services in-house. Budget airlines, however, realised that this was costly. By outsourcing, they could cut costs and offer lower ticket prices. For example, everything from check-in staff to baggage handlers to cleaning and maintenance of aircraft to catering and security can be outsourced to specialist companies. 'We outsource everything that we can outsource,' said Warwick Brady, Chief Operations Officer at budget airline easyJet. 'As long as we can manage it and control it, it gets outsourced.' Only staff in easyJet's core functions, such as its crew and its pilots, are employed directly by the company.

The aviation market is set to grow at about five per cent a year, according to industry estimates. Outsourcing companies are hoping to achieve growth even higher than this. John Menzies, for example, the world's second-biggest provider of airport services, is targeting 10 to 15 per cent growth in its aviation division, which covers freight and ground handling as well as check-in and aircraft preparation services.

**1** How does outsourcing in the aviation industry affect productive efficiency?

**FIGURE 3**

**Dynamic efficiency**




## X-INEFFICIENCY

**X-inefficiency**, sometimes referred to as organisational slack, is a specific type of productive inefficiency. It occurs when a firm is not producing at the lowest possible cost for a given level of output.

X-inefficiency is present when a firm is operating within its average cost curve and not on the boundary. This is the difference between the actual average cost and the possible average cost. In Figure 2, if a firm is producing 0B but its average cost is 0G, then it is X-inefficient because it is operating within the average cost boundary. In contrast, if it produces at 0C and its average cost is 0F, then there are no X-inefficiencies. However, the firm is still productively inefficient because it is not operating at the lowest point on its average cost curve (at output 0A).

X-inefficiencies can occur for a large number of reasons. One example is where the management of a firm is poor at controlling costs. It may not pay the cheapest possible prices for its supplies. It may employ too many workers or have too many production sites. It may not employ the most efficient and profitable capital equipment.

Another reason is that stakeholders within the firm are able to extract benefits that are greater than the firm needs to pay. For example, directors and managers might pay themselves and take bonuses in excess of what is needed to keep them employed in the firm. Trade unions might be able to negotiate higher rates of pay than the market wage rate. Environmental groups might put pressure on a firm to adopt stricter environmental standards than cost minimisation would dictate.

## EFFICIENCY AND THE PRODUCTION POSSIBILITY FRONTIER

LINK Student Book 1, Chapter 3

The various concepts of efficiency can be illustrated using a production possibility frontier (PPF). A production possibility frontier shows combinations of goods that could be produced if all resources were fully used (i.e. the economy was at full employment).

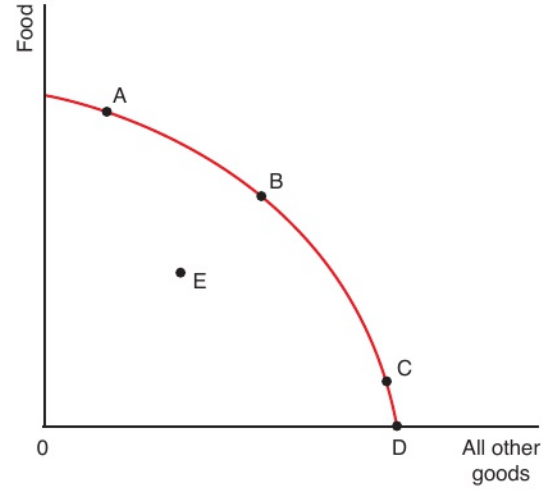
Any point on the boundary in Figure 4 is productively efficient. Points A, B, C and D, for example, are productively efficient. This is because each point shows the maximum combination of goods that could be produced. If there were inefficiencies in production, then the firm or the economy would produce within the PPF, say at E.

If there is allocative efficiency, then production must take place on the boundary. If production took place at E, it would be possible to have more food and all other goods (Figure 4). This would benefit consumers. Hence E is allocatively inefficient. However, there is only one point on the boundary that is allocatively efficient. This is the point where the preferences or utility of consumers are maximised. It is the point where the right combination of goods is produced to maximise the satisfaction of consumers. For example, the point D is on the boundary. However, producing here would mean that no food was produced. This is

**FIGURE 4**

**Productive and allocative efficiency**

Productive and allocative efficiency occur when the economy operates on its boundary, for example at A or B. However, there is only one point on the boundary which is allocatively efficient, showing the preferences of consumers for a given combination of goods.



unlikely to maximise consumers' welfare and hence D is unlikely to be allocatively efficient.

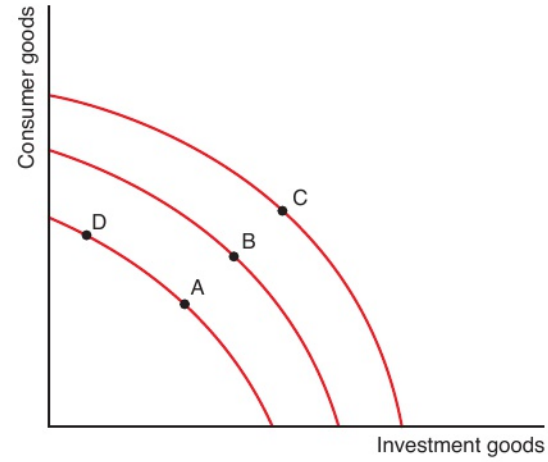
Dynamic efficiency is shown by the movement of the PPF to the right. In Figure 5, an economy moves from point A to B to C over time. Dynamic efficiency will be achieved if the preferences of present consumers and future consumers are realised. Individuals face this problem when they are young and deciding whether to save for their retirement. If they spend all their income when they are young, saving nothing, will this optimise their welfare over their lifetime when they are left poor as pensioners?

An economy could, for example, produce and consume at D rather than A in Figure 5. At D, the economy is producing far more consumer goods than at A but far fewer investment goods. This means that present consumption is higher than, say, at A. However, less investment is likely to mean that growth in the future will be lower than if the economy was at A. What if, starting at the point D, the economy grew to reach the PPF boundary on which B is located? In contrast, if the economy started at A, could it have reached C in the same time? Which is the best outcome depends on the value that consumers put on present and future consumption.

**FIGURE 5**

**Dynamic efficiency**

Dynamic efficiency occurs when consumer preferences for present versus future consumption are met. There is dynamic efficiency when the boundary is moving outwards in accordance with those preferences.




## ACTIVITY 3

SKILLS PROBLEM-SOLVING, CRITICAL THINKING

### CASE STUDY: DYNAMIC EFFICIENCY

Many scientists have predicted that the destruction of the Brazilian rainforests will add to the 'greenhouse effect', in turn leading to a rise in world temperatures and sea levels. Much of the destruction is being carried out by farmers who wish to clear land to rear cattle. They can then earn a profit by selling the beef to developed countries.

1 Draw a production possibility frontier diagram (putting 'beef' on one axis and 'all other goods' on the other).
2 Label the diagram to show a position of productive inefficiency and a position of productive efficiency.
3 Label the diagram to show a position of allocative efficiency.
4 Do you think a ban on cutting down trees in the Brazilian rainforests will lead to dynamic efficiency?

## EFFICIENCY AND INEFFICIENCY IN DIFFERENT MARKET STRUCTURES

Firms in competitive markets tend to be more efficient than those markets where a few firms dominate. The following chapters (Chapters 10 to 13) will cover whether firms in each of the **market structures** are productively efficient in the short run and in the long run and also whether they are allocatively efficient in the short run and long run.

It will be shown that a perfectly competitive market is the only market structure that will achieve both productive efficiency and allocative efficiency in the long run. Perfect competition in the short run and the other market structures of monopolistic competition, oligopoly, monopoly and monopsony will not definitely achieve either efficiency in the short run or long run.

In economics, competition is generally seen as more desirable than monopoly. Firms can compete among themselves in a variety of different ways. They can compete:

- on price, offering the lowest price to customers
- on the formulation or design of a product, offering non-homogeneous products which differ from their rivals
- on quality, reliability and customer service, offering products and services which are better made, last longer or are easier to buy
- on availability of a product, at a point in time and in a particular geographical area
- through promotion such as advertising.

## THINKING LIKE AN ECONOMIST

### THE MISALLOCATION OF RESOURCES IN TRANSPORT

It is widely argued that public transport is underused in many economies, while private forms of transport, mainly the car, are overused. This is partly because cars create externalities (Student Book 1, Chapter 15). However, it is also true that the pricing structure of private and public transport leads directly to a misallocation of resources.

When travellers consider what form of transport to use, they will look at a number of factors. These include whether or not a journey can be made by public transport, the time it takes and the comfort experienced on the journey.

Another important factor is cost. Decisions are made at the margin. How much will it cost to make this extra journey? For the motorist, the marginal cost is the variable cost of motoring. This is petrol plus any car parking fees. The fixed costs of motoring, which include purchase of the vehicle, insurance and other government car taxes, do not enter into the decision-making process for a single journey. These costs have already been paid and do not change if an extra journey is made. (See Chapter 5 to review fixed and variable costs.)

However, the price of public transport includes both fixed and variable costs. For example, when a train passenger buys a ticket, it includes the fixed cost of the payment for maintenance of the track and the variable cost of the train driver and the fuel. How much of the fixed cost the passenger pays depends on the pricing policy of the rail company. The tendency is for the train operators to put most of the fixed cost onto passengers travelling at peak times.

Therefore the price that travellers pay excludes fixed costs in private motoring when assessing the cost of an additional journey but, particularly for peak-time travellers, includes it in public transport. It is no surprise that this tends to make private motoring seem cheap for any single journey compared with public transport. This is particularly true if there is more than one passenger travelling in the car because the marginal cost of carrying an extra passenger is zero.

The result is that there is a misallocation of resources. In public transport, price tends to be set above the marginal cost of a single journey, whereas in private motoring, it is equal to marginal cost. The result is that too many car journeys are made and too little use is made of public transport.

## CHECKPOINT

1. Why does an economy want to be at a point where there is allocative efficiency?
2. Give an example of when an economy would be said to be allocatively efficient.
3. Why does allocative efficiency occur where P = MC?
4. Why does productive efficiency occur where output is at the minimum on the average (total) cost curve?
5. Why might being productively efficient be important to a firm?
6. What is the difference between static and dynamic efficiency?
7. How could X-inefficiency affect firms?
8. Which market structure will lead to allocative efficiency?
9. Which market structure will lead to productive efficiency?
10. In which market structure(s) might there be X-inefficiency?

## SUBJECT VOCABULARY

**allocative efficiency** occurs when scarce resources are used to produce a bundle of goods which satisfies consumer preferences and maximises their welfare

**dynamic efficiency** occurs when resources are allocated efficiently over time

**productive efficiency** achieved when production is achieved at the lowest average cost

**market structures** the characteristics of a market which determine the behaviour of firms within the market

**supply chain** the number of businesses which are involved, at different stages, in the production and distribution of a single good

**X-inefficiency** inefficiency arising because a firm or other productive organisation fails to minimise its average costs of production at a given level of output

# EXAM PRACTICE

## NIKE'S FOCUS ON ROBOTICS THREATENS ASIA'S LOW-COST WORKFORCE

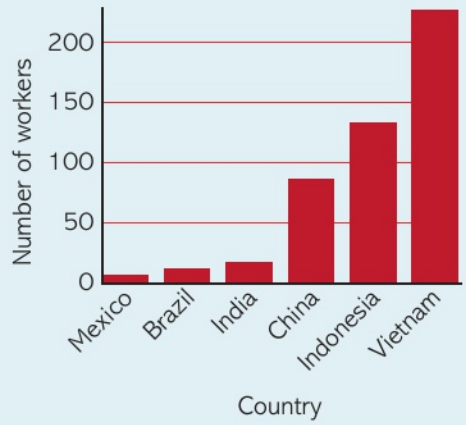
SKILLS: ANALYSING, REASONING, CRITICAL THINKING

The Flyknit Racer sports shoe was launched in 2012 and has been considered a technological breakthrough. It is produced with a special knitting machine and it uses less labour and fewer materials than most running shoes. For many athletes, the specially designed knitted upper section of their sports shoe creates a more comfortable and well-fitting shoe, something few other brands have matched.

Now, however, the same material used in the shoe has become the basis for an even more radical experiment, that has the potential to both change the sports clothing industry and accelerate an important trend in globalisation.

For Nike, the shift to greater automation has two huge benefits. By driving down costs, it could lead to a big improvement in profit margins. It might also allow the company to deliver new designs more quickly to ever-changing, fashion-conscious customers at a premium price. A pair of Nike Roshe shoes sells for $75 without Flyknit uppers, compared to $130 with Flyknit uppers.

Nike says growing sales will allow it to use more automation while maintaining its present workforce. But Nike is one of the biggest transnational employers, with more than 493,000 production line workers, in 15 countries. For all Nike's products, its contracted factories employ 1.02m workers in 42 countries.




▲ **Figure 6 Nike's worldwide workers**

Source: Nike © FT

The very-low labour costs in Asia are no longer that low. The choice now for Nike is to either move to a super low-cost place, for example in Africa, or have more automation. Nike estimates that with more automation the cost of labour would decrease 50 per cent and materials costs would fall 20 per cent.

The decision to use automation is not just about costs: it is also about trying to keep up with consumer tastes. The most successful retailers are now those with a constant stream of new products to meet rapidly changing tastes and shopping habits of consumers. With their more complicated manufacturing processes, it has been difficult for footwear companies to adapt to so-called fast fashion trends, at least until now.

Traditional shoe production requires as many as 200 different pieces across 10 sizes, often cut and glued together by hand. The new manufacturing process being developed has introduced two ideas once thought impossible: the gluing process has been automated and lasers are used to cut the Flyknit material.

## ADIDAS AND UNDER ARMOUR ENTER AUTOMATION RACE

Nike is out in front in introducing new production techniques, but rivals Under Armour and Adidas are not far behind. After the success of its first Speedfactory in Germany, Adidas is scheduled to open its second partially automated factory in Atlanta as a part of its 2020 goal of lowering production times and increasing its share of quick-turnaround products.

In its first Speedfactory, it took about five hours to make a pair of shoes from start to finish, whereas the same process through its existing **supply chains** in Asia can take several weeks, according to Morgan Stanley analysts. Adidas has used 3D printing technology to produce a shoe – known as the Futurecraft – in the factory. The company says this could change the way shoes are sold: in the future it hopes to use digital imaging technology to produce custom, on-the-spot footwear for customers. However, the speed, reliability and cost at high volumes of 3D printing are still limiting factors. Additionally, the shoes that use the technology have met with some negative reviews from customers.

Q

**1** Which **one** of the following statements is true? **(1 mark)**

(a) Productive efficiency is where P = AC
(b) Allocative efficiency is where P = MC
(c) Productive efficiency is where AR is at a minimum
(d) Allocative efficiency is where AC is at a minimum

**2** Explain what is meant by 'X-inefficiency'. **(4 marks)**

**3** Analyse why Nike's use of automation could increase its productive efficiency. **(6 marks)**

**4** To what extent will automation in the shoe industry lead to an improvement in both allocative efficiency and dynamic efficiency? **(20 marks)**

### EXAM HINT

For Question 4, use a PPF diagram to illustrate your answer. Explain what is meant by allocative efficiency and dynamic efficiency and apply it in the context of the sports shoe market. Why might the growth in the use of new technology satisfy the wants of consumers? What is the impact on consumers of more automation in the sports shoe industry? Is it beneficial to consumers? Overall, weigh up whether consumers and shareholders will benefit from the increased use of automation in the sports shoe industry.

# 9 MARKET STRUCTURES AND CONCENTRATION RATIOS

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the characteristics that distinguish different market structures
- Know how to calculate an n-firm concentration ratio
- Understand the significance of concentration ratios

## GETTING STARTED

In your country, what are the characteristics of the mobile (cell) phone market (for sending and receiving data rather than the handsets)? Look at the following list to help you describe these characteristics of the market structures.

## MARKET STRUCTURES

**Market structures** are the characteristics of a market which determine a firm's behaviour. Economists emphasise a small number of main characteristics:

- the number of firms in the market and their relative size
- the number of firms that might enter the market and the ease or difficulty with which these new entrants might enter or exit
- the extent to which goods in the market are similar
- the extent to which all firms in the market share the same knowledge
- the extent to which the actions of one firm will affect another firm.

**The number of firms in the market and their relative size.** The number of firms in an industry may vary from one to many. In Spain, Correos provides a national postal service for letter deliveries to households and is a single supplier. In agriculture, on the other hand, there are tens of thousands of farms supplying rice and carrots to the market in Sri Lanka.

- A pure monopoly is said to exist where there is only one supplier in the market.
- In a market dominated by a few large producers, the market structure is an oligopoly. In an oligopolistic market there may be a large number of firms, but the main characteristic is that most are small and relatively unimportant, while a few large firms produce most of the output of the industry.
- In perfect competition or in monopolistic competition there are a large number of small suppliers, none of which is large enough to dominate the market.

The degree to which large firms dominate an industry is known as **market concentration**. This can be measured using a **concentration ratio**, which considers the **market share** of the leading firms in an industry. Concentration ratios are considered later in this chapter.

**The number of firms that might enter the market and the ease or difficulty with which these new entrants might enter or exit.** Market structures are not only affected by the number of firms in an industry and their relative output, but also by the potential number of new entrants to the market. Firms in an industry where there are unlikely to be any new entrants may behave differently to firms in an industry where there are many strong potential competitors. Difficulties in entering a market are called **barriers to entry**. In some industries, there are also difficulties in leaving the market and so these may become a barrier for a firm to enter the market in the first place. These are called **barriers to exit**. Both of these barriers will be explained in more detail in Chapter 12.

**The extent to which goods in the market are similar.** In some industries, products are essentially the same whichever firm produces them. Coal, steel and rice are examples. This does not mean that there are not different grades of coal or types of steel, but no producer has a monopoly on the production of any particular grade or type. Goods that are identical are called **homogeneous goods**.

Firms find it much easier to control their markets if they can produce goods that are **non-homogeneous**. Differentiating their product from those of their competitors (called **product differentiation**) and creating brands allows them to build up brand loyalty. This in turn leads to a reduction in the elasticity of demand for their product. A **brand** or branded good may be physically no different from its competitors, or it may be slightly different, but branding has value for the firm because consumers think that the product is very different, so rival products are a very poor substitute for it. This view is developed through advertising and marketing and enables firms to charge higher prices without losing very much custom (i.e. demand is relatively inelastic).

LINK Student Book 1, Chapter 8

## ACTIVITY 1

SKILLS ANALYSIS, INTERPRETATION

### NUMBER OF FIRMS IN A MARKET

1 In your country, how many firms are there in each of the industries shown in the photographs?
2 In your country, in which industries do a few large firms dominate?

**The extent to which all firms in the market share the same knowledge.** Buyers and sellers are said to have **perfect knowledge** of prices, output and products. Therefore, if one firm were to put up its prices, it would lose all its customers because they would buy from elsewhere in the industry. Hence, there can only be one price in the market.

Perfect knowledge also implies that a firm has access to all information which is available to other firms in its industry. In India, The National Portal provides farmers with information about the agricultural industry. Farmers can obtain information about, for example, different varieties of seeds, the most effective combinations of fertilizers and pesticides and when it is best to plant and harvest crops.

Perfect knowledge does not imply that all firms in an industry will possess all information. An inefficient farmer might not bother to gather relevant information which is readily available. In the short term, the farmer might survive, although in the longer term the farm will be driven out of business by more efficient competitors. Equally, perfect information does not imply that all firms know everything about their industry and its future. Farmers do not know if in 6 months' time unusually cold weather will destroy their crops. They have to look at the probability of this happening. Perfect knowledge only means that all firms have the same access to information.

Firms have imperfect knowledge where, for instance, there are industrial secrets. Individual firms may not know the market share of their competitors or they may be unaware of new technology or new products to be launched by rival companies. Information could then act as a barrier to entry, preventing or discouraging new firms from entering the industry.

**The extent to which the actions of one firm will affect another firm.** There are two possible relationships between firms in an industry. Firms may be **independent** of each other. This means that the actions of any one firm will have no significant impact on any other single firm in the industry. In agriculture, for instance, the decision of one farmer to grow more sugar this season will have no direct impact on any other farmer. It will not affect his neighbour. This independence is one reason why perfect knowledge exists to some degree in agriculture. There is no point in keeping secrets if your actions will not benefit you at the expense of your competitors.

If firms are **interdependent**, then the actions of one firm will have an impact on other firms. An advertising campaign for one brand of soap bar, for instance, is designed mainly to attract customers away from other brands. Firms are more likely to be interdependent if there are few firms in the industry. Interdependence implies **uncertainty**. For example, one firm in the market does not know how other firms will react if it makes a change to the price of a product or spending on an advertising campaign.

## COMPETITION AND MARKET STRUCTURE

The neo-classical theory of the firm recognises a number of market structures derived from the characteristics above. In following chapters these market structures will be considered in greater detail. Here is a summary of the characteristics of the main market structures:

- Perfect competition exists where a large number of firms, each producing a homogeneous good, compete in the industry. None of the firms is large enough to have a direct impact on any other firm or on the market price of the good. There is freedom of exit and entry to the industry.
- Monopolistic competition exists where there are a large number of firms, each producing a differentiated product. The firms have some control over the price they charge for their own product. There is freedom of exit and entry to the industry.
- Oligopoly exists where there may be many firms in the industry but a few large firms dominate and produce the majority of the output. Firms are interdependent and they make decisions taking into account what they think the behaviour of competitors will be.
- Monopoly exists where there is only one firm in the industry. High barriers to entry make it impossible for new firms to enter.

### ACTIVITY 2

SKILLS ANALYSIS, INTERPRETATION

#### WHICH MARKET STRUCTURE?

ABC is a firm in an industry with many other producers. It grows flowers and sells them directly to customers through its own shop. The price of ABC flowers is the same as the other firms in the market. Last year, ABC did try to raise its price for flowers and tried to claim that the quality of their flowers was better than competitors. However, it had a large fall in the sales of its flowers so it went back to charging its original price.

It was easy to originally set up the business 20 years ago but this year there have been new firms entering the market that sell branded flowers (these are specially grown new varieties of flowers). These firms advertise on social media and customers can buy flowers which are then delivered to their homes straight away. These firms are becoming popular and the firms are earning high profits.

1 What market structure was ABC operating in in previous years?
2 How has the market changed this year? How will the market structure be affected in the future?

## MARKET CONCENTRATION

How many firms are there in an industry or a market? The answer to this question will depend on how we define the market or industry. For instance, the economy could be split up into three very broad market classifications – the market for primary goods, the market for secondary goods and the market for tertiary goods. There are a large number of firms operating in each of these markets. At the other extreme, one could ask how many firms produce balls for use in professional cricket, an extremely narrow market.

It should be obvious that the more narrowly a market is defined, the more likely it is that there will be relatively few producers. In the transport market, there are bus companies, rail companies, airlines, etc. In the air transport market, there will be fewer companies. In the market for direct air travel from Colombo, Sri Lanka to Male, Maldives, there are only a few airline companies operating this route.

## CONCENTRATION RATIOS

Having classified firms into industries or markets, it is possible to see how many producers there are in the industry or market. The number of producers is likely

to be less important in studying the behaviour of firms in an industry than the power of individual firms within the market. One way of measuring this potential power is to calculate their market share. This measure is called a concentration ratio. The concentration ratio measures the share of the market by the largest (often the five largest) firms in the industry. It shows the extent to which an industry is dominated by a few large firms.

N-firm concentration ratio measures the proportion of the total sales produced by the N largest firms in the industry. (Note: N is the number of firms in the concentration ratio being calculated, e.g. for a 3-firm ratio, N = 3.) It has the formula:

$$\frac{\text{Total sales of N firms in the industry}}{\text{Total sales of all the firms in the industry}} \times 100\%$$

The higher the number of the concentration ratio, the more concentrated the industry and the fewer firms that dominate the market. The lower the concentration ratio, the more competitive the industry.

The formula often measures a 3-firm, 4-firm or 5-firm concentration ratio. For example, a 3-firm concentration ratio would be the total share of the market held by the three largest producers in the industry; a 5-firm concentration ratio would be the total share of the market held by the five largest producers. Any small number can be used to measure the concentration of an industry.

The significance of a concentration ratio is that it indicates the extent to which an industry is dominated by a few large firms and is therefore an oligopoly. Whether to use a 3-firm, 4-firm or 5-firm concentration ratio will depend on the market being studied. If a market has several large firms dominating the market then a 5-firm ratio may be used but if the market only has three large firms with the rest of the market supplied by small firms, then a 3-firm ratio may be used. There is no definite rule about what makes an industry an oligopoly but, for example, if five firms had 75% of the market it would be considered an oligopoly.

However, the figure on its own is only an indicator of the share of the market; further research would have to be undertaken to find out how firms in the industry were behaving. For example, if an industry has a 5-firm concentration ratio of 80%, this suggests that the industry is oligopolistic. It doesn't tell you the market share of each of the five firms. One firm could have 60% of the market with the other four firms having just 5% each. Or the five firms could have an equal share of 16% each. The rest of the information for the industry needs to be assessed as well as the concentration ratio itself.

The concentration ratio may be useful when a government is considering whether to allow a merger or takeover to go ahead. If the merger would make the concentration of the industry much worse, with the possibility of too much power concentrated in just a few firms, the merger might be refused. This may be because the merger would make it much more likely that consumers or suppliers to the industry would be exploited or treated unfairly.

The concentration ratio for an industry can also be compared over time to see if an industry is becoming more or less competitive. This may indicate, for example, that the largest firms are increasing their dominance.

## ACTIVITY 3

SKILLS PROBLEM-SOLVING, REASONING, CRITICAL THINKING

### CALCULATING CONCENTRATION RATIOS

| Industry 1 | | Industry 2 | | Industry 3 | |
|---|---|---|---|---|---|
| Firm A | 75% | Firm I | 25% | Firm Q | 5% |
| Firm B | 5% | Firm J | 24% | Firm R | 5% |
| Firm C | 5% | Firm K | 22% | Firm S | 5% |
| Firm D | 5% | Firm L | 20% | Firm T | 4% |
| Firm E | 5% | Firm M | 2% | Firm U | 4% |
| Firm F | 1% | Firm N | 1% | Firm V | 4% |
| Firm G | 0.5% | Firm O | 0.5% | Firm W | 3% |
| Firm H | 0.5% | Firm P | 0.5% | Firm X | 3% |

▲ Table 1 Percentage sales for the largest firms in Industry 1, 2 and 3

Table 1 shows the percentage sales for the largest firms in Industry 1, 2 and 3.

**1** Work out the: (a) 3-firm; (b) 5-firm; (c) 8-firm concentration ratio for the three industries.

**2** Suggest a possible type of market structure for each industry.

**3** Suggest how the firms in Industry 2 might behave differently to the firms in Industry 3.

## THINKING LIKE AN ECONOMIST

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS, INTERPRETATION

# MCDONALD'S TO DOUBLE NUMBER OF CHINA RESTAURANTS

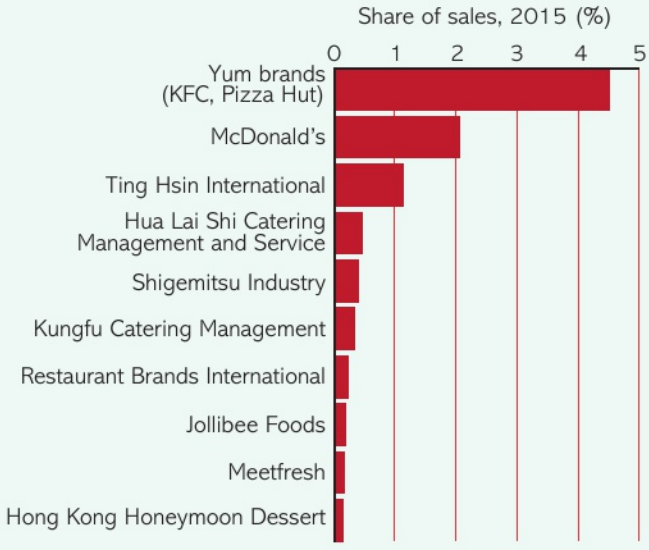
McDonald's has announced plans to double the number of its stores in China within five years as the company, under new management, aims to overtake rivals in the world's fastest-growing consumer market. The company outlined its 'Vision 2022' plan to increase Chinese stores from 2500 to 4500 within five years.

The plan also illustrates a shift in McDonald's focus away from big cities to selling in China's less-developed urban areas: 45 per cent of the new restaurants will be located in third or fourth-tier cities (smaller, typically poorer cities in China) while 75 per cent of them will provide take-out and delivery services.

The company with its instantly recognisable logo has seen its revenues stop growing in China, where competitive local brands and mobile delivery apps have taken consumers away from its restaurants.

After expanding quickly in Asia, McDonald's growth halted in 2013, with revenue in high-growth markets (including Asia Pacific) declining 1.9 per cent.

Meanwhile, McDonald's has struggled to catch up to rival fast food brands such as KFC or Pizza Hut in China, which are both owned by Yum China, the China spin-off of Yum Brands of the US. Despite years of operating in China, McDonald's is still behind Yum China in both market share and number of stores.




▲ **Figure 1 Fast food market in China**

Source: McDonald's to double number of China restaurants, © 2017, The Financial Times Limited

## CHECKPOINT

1. List five characteristics that can be used to distinguish between different market structures.
2. What is the formula for a 3-firm concentration ratio?
3. Why are concentration ratios useful?
4. What are the limitations or drawbacks of concentration ratios?

## SUBJECT VOCABULARY

**barriers to entry** factors which make it difficult or impossible for firms to enter an industry and compete with existing producers

**barriers to exit** factors which make it difficult for firms to cease production and leave an industry

**brand** a name, design, symbol or other feature that distinguishes a product from other similar products and which makes it non-homogeneous

**concentration ratio** the market share of the largest firms in an industry. For instance, a 5-firm concentration ratio of 60 per cent shows that the five largest firms in the industry have a combined market share of 60 per cent

**homogeneous goods** goods made by different firms but which are identical

**independent** in market theory, when the actions of one firm will have no significant impact on any other single firm in the market

**interdependent** in market theory, when the actions of one firm will have an impact on other firms in the market

**market concentration** the degree to which the output of an industry is dominated by its largest producers

**market share** the proportion of sales in a market taken by a firm or a group of firms

**market structures** the characteristics of a market which determine the behaviour of firms within the market

**non-homogeneous goods** goods made by different firms which are similar but not identical, such as branded goods

**perfect knowledge** exists if all buyers in a market are fully informed of prices and quantities for sale, while producers have equal access to information about production techniques

**product differentiation** aspects of a good or service which serve to distinguish one product from another such as product formulation, packaging, marketing or availability

**uncertainty** in market theory, when one firm does not know how other firms in the market will react if it changes its strategy, such as changing its price

# EXAM PRACTICE

## GLOBAL SMARTPHONE MARKET DECLINED FOR SECOND SUCCESSIVE QUARTER IN Q1 2018

SKILLS ANALYSING, REASONING, CRITICAL THINKING

According to research from Counterpoint's Market Monitor service, global smartphone sales declined 3 per cent annually in Q1 2018. Top 10 firms now have 76 per cent of the market. That leaves 600+ brands to compete for the remaining 24 per cent.

A spokesperson at Counterpoint Research said, 'The falling smartphone demand is due to a slow-down in developed markets where replacement times for phones are lengthening with overall smartphone features and design reaching its peak. Consumers are less likely to want to replace their smartphone each year for the newest model of phone, as the additional features on the new models are now less significant.

'However, emerging markets still offer a big opportunity for expansion and growth of the OEMs [OEMs are manufacturers who resell another company's product under their own name and branding]. The average selling price of smartphones is increasing in emerging markets with users upgrading from entry level [very basic phones] to the mid smartphone segment [phones with more features]. Hence, in 2018 we expect OEMs to accelerate their expansion in parts of Africa and rest of the APAC [Asia Pacific] region to capture the growing demand.'

- The China market decline in Q1 2018 affected the overall growth of some of the main Chinese brands including OPPO and vivo. Both brands saw a decline as a result of the slowdown in the China market.
- The Chinese brands are investing in countries and regions outside China to offset the weak demand in the home market. The key markets for Chinese brands' expansion so far have been India, South East Asia, Europe, Middle East and Africa.
- Nokia HMD, iTel, Xiaomi, Tecno, OnePlus and Huawei were in the fastest growing category. In the top 10 smartphone category, OPPO, vivo and Samsung reported declines in Q1 2018.

Srivastava, Shobhit, Global Smartphone Market Declined YoY For Second Successive Quarter in Q1 2018, © 2018, Used with permission from Counterpoint Technology Market Research

| Global Smartphone Shipments | Million units | | | Percentage share | |
|---|---|---|---|---|---|
| | 2017 Q1 | 2018 Q1 | YoY % growth | 2017 Q1 | 2018 Q1 |
| Samsung | 80.0 | 78.0 | –3 | 21.6 | 21.7 |
| Apple | 50.8 | 52.2 | 3 | 13.7 | 14.5 |
| Huawei | 34.6 | 39.3 | 14 | 9.3 | 10.9 |
| Xiaomi | 13.4 | 27.0 | 101 | 3.6 | 7.5 |
| Oppo | 26.1 | 22.0 | –16 | 7.0 | 6.1 |
| vivo | 22.8 | 19.5 | –15 | 6.1 | 5.4 |
| LG | 14.8 | 11.4 | –23 | 4.0 | 3.2 |
| Lenovo (includes Motorola) | 11.4 | 8.7 | –24 | 3.1 | 2.4 |
| ZTE | 13.3 | 7.2 | –46 | 3.6 | 2.0 |
| iTel | 1.5 | 4.6 | 213 | 0.4 | 1.3 |
| Others | 102.5 | 90.1 | 12 | 27.6 | 25.0 |
| Total | 371.1 | 360.0 | –3 | 100.0 | 100.0 |

▲ Figure 2 Global smartphone market

Source: Counterpoint Technology Market Research

1 With reference to Figure 2, explain what is meant by 'market share'. **(4 marks)**

2 Calculate the 3-firm, 5-firm and 10-firm concentration ratios for the global smartphone market in the first quarter of 2018. **(6 marks)**

3 Discuss the market structure of the global smartphone market. **(14 marks)**

4 Evaluate whether the top three companies in the 3-firm concentration ratio are likely to be in the same position in 10 years' time. **(20 marks)**

**EXAM HINT**

For Question 4, first define market share and then point out that this could have different meanings in this context – in different parts of the world. Is it likely that Samsung, Apple and Huawei will remain as the top three companies in the global smartphone market? How has the market share changed from 2017? What factors are affecting the changing sales of smartphones in the different markets? How likely is it that these trends will continue in the future? Is it more or less likely that other companies will become more dominant and move up the rankings of the market share? Conclude with whether these three companies are likely to be able to maintain their dominance in the future.

# 10 PERFECT COMPETITION

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the assumptions of perfect competition
- Know how to identify profit maximising equilibrium in the short run
- Know how to identify profit maximising equilibrium in the long run
- Understand when a firm will shut down in the short run
- Understand whether a firm will be productively efficient or allocatively efficient in the short run and long run

## GETTING STARTED

You are a rice farmer in Thailand. What is the structure of the market in which you operate? How many buyers and sellers are there? How easy is it to enter or exit rice farming? Is there perfect knowledge? Do you produce a homogeneous good? Can you dictate prices to your customers? All other things being equal, what will happen to prices if there is a bumper harvest of rice worldwide, or to your profits if the price of pesticides increases significantly?

## ASSUMPTIONS OF PERFECT COMPETITION

LINK Student Book 1, Chapter 6

The model of **perfect competition** describes a market where there is a high degree of competition. However, the word 'perfect' does not mean that this form of competition produces ideal results or maximises **economic welfare**, it simply means it has all the characteristics for the market to operate perfectly competitively. Examples of perfect competition in the real world are hard to find but there are markets that contain several of these characteristics and are similar to perfect competition.

A perfectly competitive market must possess four main characteristics:

- There must be many buyers and sellers in the market, none of whom is large enough to influence price. Buyers and sellers are said to be **price takers**. This type of market has many relatively small firms that supply goods to a large number of small buyers. For example, share dealing on stock exchanges across world markets.
- There is freedom of entry to and exit from the industry. Firms must be able to establish themselves in the industry easily and quickly. Barriers to entry must therefore be low. If a firm wishes to cease production and leave the market, it must be free to do so.
- Buyers and sellers possess perfect knowledge of prices. If one firm charges a higher price than the market price, the demand for its product will be zero as buyers will buy elsewhere in the market. Hence the firm has to accept the market price if it wishes to sell into the market (i.e. it must be a price taker).
- All firms produce a homogeneous product. There is no branding of products and products are identical. For example, individual company shares are homogeneous: one Apple share is the same as another Apple share.
- It is also assumed that firms are profit maximisers.

There are relatively few industries in the world which could be identified as an example of this type of market structure. One which might be closest to perfectly competitive is agriculture. In agriculture there are a large number of farmers supplying the market, none of whom is large enough to influence price. It is relatively easy to buy a farm and set up in business. Equally it is relatively easy to sell a farm and leave the industry. Farmers on the whole possess perfect knowledge. They know what prices there are in the market, for instance from farming magazines or the internet. Finally, farmers produce a range of homogeneous products. Carrots from one farm are not different from carrots from another farm.

In Europe and in many countries around the world, farming is not a perfectly competitive market. This is because governments may interfere in the market,

buying and selling to fix a price. In some markets in Europe, there are a small number of very large buyers, such as supermarkets. Again, these markets would not be classified as perfectly competitive.

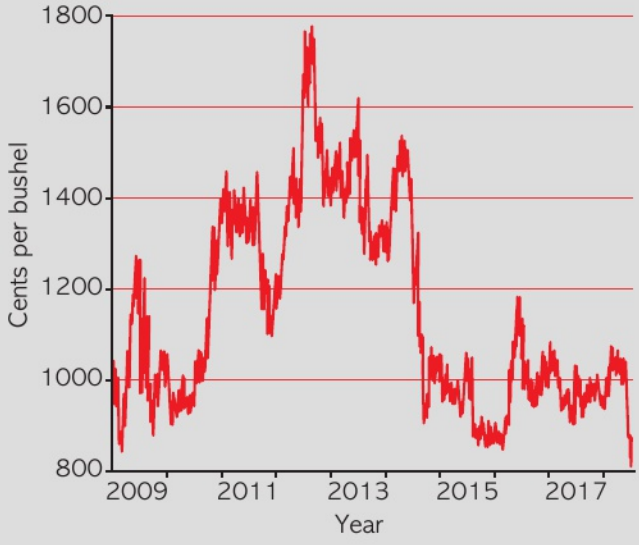
The foreign exchange market is an example of a market that has many of the characteristics of a perfectly competitive market.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS

### CASE STUDY: WORLD SOYA BEAN PRICES

Soya bean prices have fallen by more than 25 per cent this year. Hundreds of thousands of soya bean farmers worldwide might be fearful of where the price could go in the future. The upside is that lower soya bean prices will encourage food producers worldwide to use more soya beans in the food products they make.




▲ Figure 1 Soya bean prices 2009–2018

Source: Thomson Reuters © FT

1 Why might producers in the world soya bean market be said to operate in a perfectly competitive market?

## DEMAND AND REVENUE

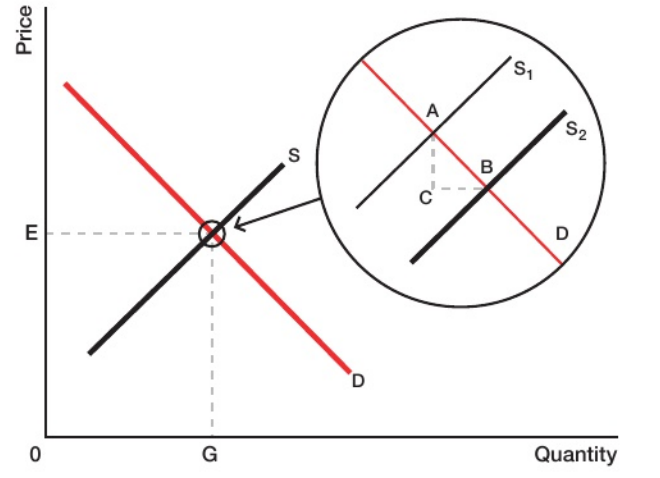
It is an assumption of the model of perfect competition that there is a large number of sellers in the market (Student Book 1, Chapter 10). Assume that one of these firms decides to double output. Industry supply will increase, pushing the supply curve to the right. However, the increase in supply is necessarily very small because the firm is small. In fact it will be so small that the resulting movement along the demand curve will be impossible to distinguish and the price will not change.

This can be seen in Figure 2. The area around the existing equilibrium point has been enlarged. An increase in supply by one firm has shifted the supply curve from $S_1$ to $S_2$, reducing equilibrium price by AC and increasing equilibrium quantity demanded and supplied by CB. However, AC is so small that it has no effect on the overall equilibrium price, OE, and it is impossible to draw two supply curves thinly enough to show this shift in supply.

### FIGURE 2

**The effect of an increase in supply by one firm in a perfectly competitive industry**

An increase in supply by one firm from $S_1$ to $S_2$ will have such a small effect on total supply that equilibrium price will remain at OE.



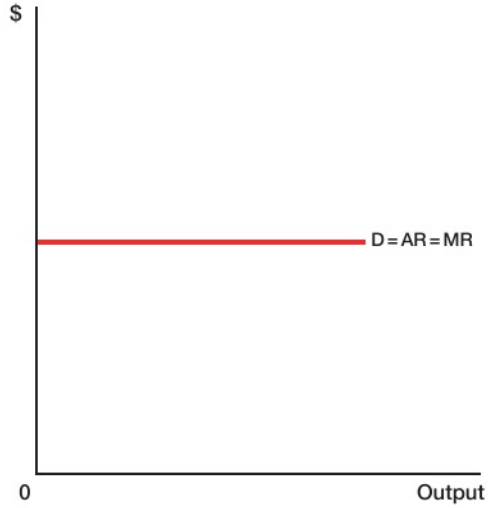

In agriculture, for instance, it would be surprising if the decision of one farmer to increase production of wheat by two times had any influence on the equilibrium price. His or her extra output is so insignificant to the total supply that it cannot affect the market price for wheat. Of course, if all farmers were to double their wheat output, the price of wheat would fall by a very large amount. However here we are interested only in the effect on price of the production decisions of a single farm.

A firm in perfect competition can therefore expand output or reduce output without influencing the price. The firm cannot choose to raise price and expect to sell its product. It can lower its price but there is no advantage in this since it can sell its entire output at the higher market price. The demand curve for an individual firm is therefore horizontal, i.e. perfectly elastic as in Figure 3. (Note that if a firm expanded output sufficiently its demand curve would become downward sloping, but then the industry would be made up of one large firm and many small firms, so the market would no longer be perfectly competitive.)

**FIGURE 3**

**The demand curve facing a firm in perfect competition**

A change in output by the firm will have no effect on the market price of the product. Therefore the firm faces a perfectly elastic demand curve. This is also the firm's average and marginal revenue curve.




The perfectly elastic demand curve facing a perfectly competitive firm also means that it is a price taker. It has no choice about what price it receives for its product. Either it accepts the market price or it can choose not to sell. At a cattle auction, for example, farmers can choose either to sell at the auction price or to take their cattle home.

The demand curve facing a perfectly competitive firm is also the firm's average and marginal revenue curve. If a firm sells all its output at one price, this price must be the average price or average revenue received. If a firm sells an extra or marginal unit, it will receive the same price as for previous units and therefore the marginal revenue will be the same as the average revenue.

## ACTIVITY 2

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: MARKET DEMAND AND SUPPLY

| Quantity demanded (million units) | Quantity supplied (million units) | Price ($) |
|---|---|---|
| 1000 | 6000 | 10 |
| 3000 | 4000 | 8 |
| 5000 | 2000 | 6 |

▲ Table 1 Market demand and supply

1 Draw the market demand and supply curves on graph paper.
2 There are 1000 firms in the industry, each producing the same quantity. One firm now produces two times as much output.
   (a) Show the effect of this on market demand and supply.
   (b) On a separate graph draw the demand curve facing the firm.
3 All firms in the industry now produce two times as much output.
   (a) Show the effect of this on market demand and supply.
   (b) What will be the effect on the demand curve for the individual firm?

## COST AND SUPPLY CURVES

In a perfectly competitive market, the supply curve of a firm will be its marginal cost curve (Student Book 1, Chapter 10).

The marginal cost of production is the lowest price at which a firm would be prepared to supply an extra unit of output. For instance, if the marginal cost was $3 when price received was $5, the firm would be able to make $2 supernormal profit (profit over and above the normal profit included in cost on that unit). The firm would definitely produce this marginal unit. If the marginal cost was $3 when price was $3, the firm would still produce this marginal unit because it would earn normal profit on it. However, if the marginal cost was $3 when price was $2 it would not produce the extra unit because it would make a $1 loss on it.

In the short run, a firm will not necessarily shut down production if it makes a loss. A firm has fixed costs which it has to pay whether it closes down and produces nothing or whether it continues to operate. Any revenue over and above a firm's variable cost will make some contribution towards paying its fixed costs. Therefore it will only close down (i.e. cease to supply) if average revenue or price is below average variable cost.

The firm's short-run supply curve will therefore be that part of the marginal cost curve above its average variable cost curve – the 'solid' portion of the marginal cost curve in Figure 4(a).

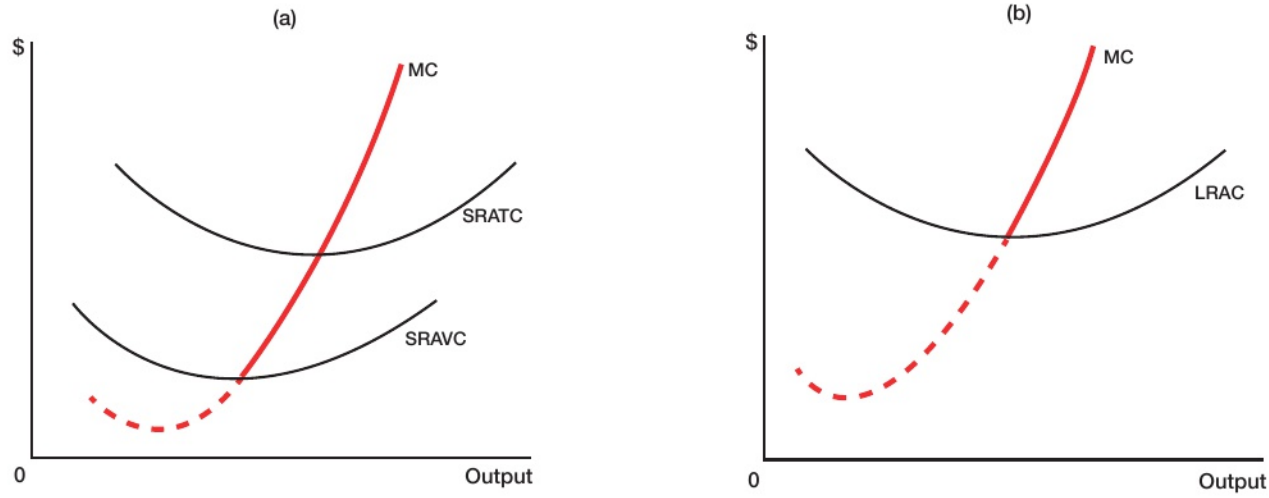
In the long run there are no fixed costs and the average total cost and average variable cost curves are the same. The firm will not produce unless it can cover all its costs. Therefore in the long run, the firm's supply curve is the marginal cost curve above its average cost curve, as shown in Figure 4(b).

The supply curve for the industry can be constructed by horizontally adding together the individual supply curves of each firm.

## FIGURE 4

**The firm's supply curve**

The marginal cost of production is the lowest price at which a profit maximising firm will sell a marginal unit of production. Therefore the marginal cost curve is the supply curve for the firm. However, in the short run the firm may stay in production so long as it can cover its average variable costs. Hence the short run supply curve is the marginal cost curve above average variable cost, as in Figure 4(a). In the long run a firm will leave the industry if it makes a loss. Hence, the supply curve in the long run is the marginal cost curve above the average cost curve, as in Figure 4(b).




## ACTIVITY 3

SKILLS REASONING, PROBLEM-SOLVING

### CASE STUDY: SHORT-RUN SUPPLY CURVE

| Units | $ | | | | | |
|---|---|---|---|---|---|---|
| Output average | Total fixed cost | Total variable cost | Total cost | Average variable cost | Average (total) cost | Marginal cost |
| 2 | 100 | 100 | | | | |
| 3 | | | | | | 40 |
| 4 | | | | | | 30 |
| 5 | | | | | | 40 |
| 6 | | | | | | 60 |
| 7 | | | | | | 100 |

▲ Table 2

Table 2 shows the costs of production of a firm.

1 For levels of output from two to seven units, find: (a) total fixed cost; (b) total variable cost; (c) total cost; (d) average variable cost; (e) average (total) cost.
2 Plot the firm's short-run supply curve on a graph.
3 Would a firm cease production (1) in the short run and (2) in the long run if the sales price per unit was: (a) $80; (b) $70; (c) $60; (d) $50; (e) $40; (f) $30?

## PROFIT MAXIMISING EQUILIBRIUM IN THE SHORT RUN

In perfect competition it is assumed that firms are short-run profit maximisers. Therefore a firm will produce at that level of output where marginal cost equals marginal revenue (the MC = MR rule). The price it charges is fixed by the market because the individual firm is a price taker.

Figure 5 shows one possible short-run equilibrium situation. The demand curve is perfectly elastic at a price of OE. The marginal cost curve cuts the marginal revenue curve at H and hence the equilibrium, profit maximising level of output for the firm is OQ. At this level of output, average revenue (QH) is higher than average cost (QG) and so the firm will make a supernormal profit. This is given by the shaded area EFGH and is average profit (EF) multiplied by the quantity produced (FG).

**FIGURE 5**

**Short-run profit maximisation**
The firm produces at its profit maximising equilibrium level of output, OQ, where MC = MR. Because AR is greater than AC, it makes a supernormal profit of EFGH.

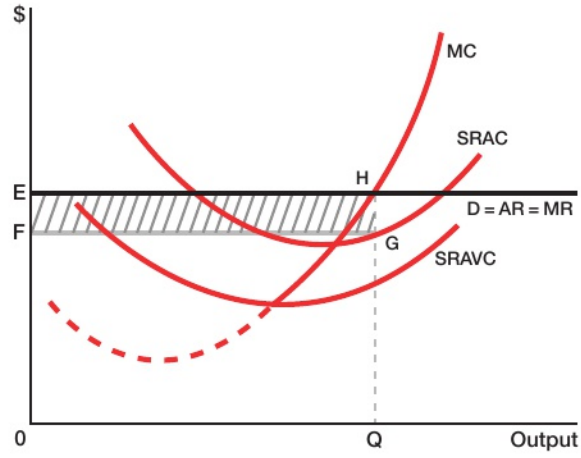
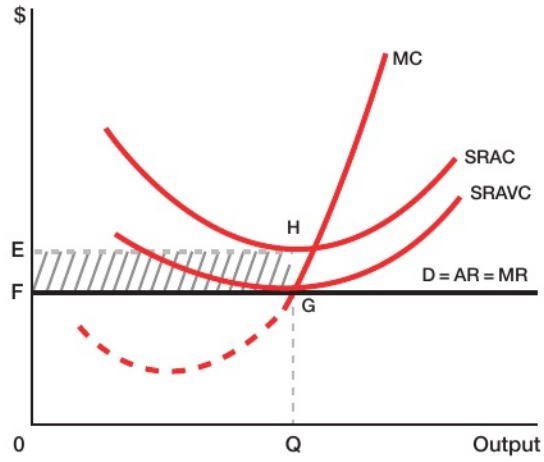



Figure 6 gives another possible situation. Here the firm is making a loss at its equilibrium, profit maximising (or in this case loss minimising) level of output, OQ, where MC = MR. Price OF is lower than average cost and hence the firm makes a total loss of EFGH. The firm will stay in production if this loss is smaller than the loss it would make if it shut down (i.e. so long as average revenue is above average variable cost).

**FIGURE 6**

**Short-run operation at a loss**
The firm produces at its profit maximising equilibrium level of output, OQ, where MC = MR. In this case, because AR is less than AC, it will make a loss shown by the shaded area EFGH. This is the minimum loss it will make if AR is greater than AVC.




LINK Student Book 1, Chapter 11

## PROFIT MAXIMISING EQUILIBRIUM IN THE LONG RUN

In the long run, a perfectly competitive firm will make neither losses nor supernormal profits.

Consider a situation where firms are making losses. In the long term, some firms will leave the industry. It is pointless to carry on production in the long term at a loss. If firms leave the industry, total supply will fall. The more firms leave the industry, the greater will be the fall in supply and the greater will be the rise in price of the product. Firms will continue to leave the industry until the industry as a whole returns to profitability. This is shown in Figure 7. When the supply curve is $S_1$, the firm is making a loss. Firms leave the industry, pushing the supply curve to the left. At $S_2$, the price is just high enough for firms to make normal profit.

If a firm is making supernormal profit in the short run, other firms will enter the industry, eager to gain high profits. This is shown in Figure 8. At a price of P, firms are making supernormal profit. This encourages new entrants to the industry, increasing supply from $S_1$ until, at $S_2$, the price is just low enough for firms to make normal profit.

In the long run, then, competitive pressures ensure equilibrium is established where the firm makes

**FIGURE 7**

**Long-run equilibrium following short run losses**
If losses are being made in the short run, firms will leave the industry, pushing the supply curve from $S_1$ to $S_2$. At $S_2$ there will no longer be any pressure for firms to leave because they will be able to make normal profits on their operations.

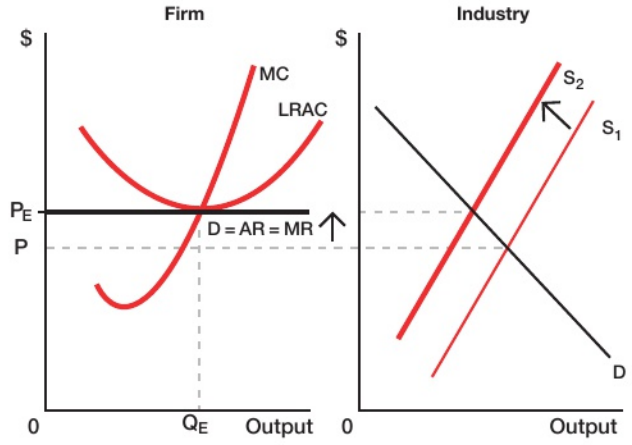
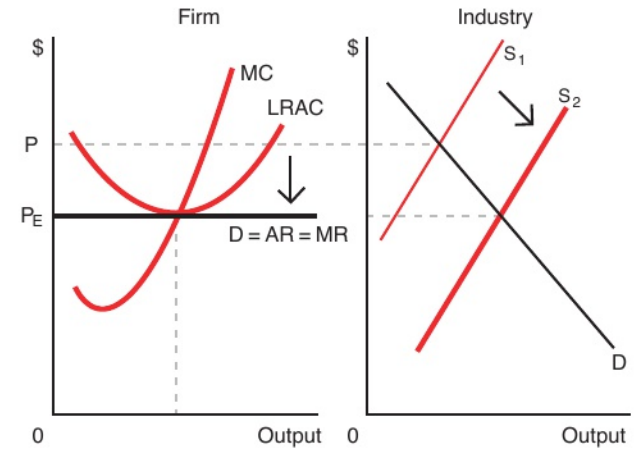



**FIGURE 8**

**Long-run equilibrium following short run supernormal profit**
If supernormal profits are being made in the short run, firms will enter the industry, pushing the supply curve from $S_1$ to $S_2$. At $S_2$ firms will no longer be attracted into the industry because they will only be able to make normal profits on their operations.




neither supernormal profits nor losses. This means that in equilibrium, average revenue equals average cost (AR = AC). It should also be remembered that MC = MR because the firm is profit maximising and that AR = MR because the demand curve is horizontal. Putting these three conditions together, it must be true that for a firm in long run equilibrium in a perfectly competitive market:

$$AC = AR = MR = MC$$

## LONG-RUN COST CURVES

One interesting point to note is that the model of perfect competition predicts that all perfectly competitive firms will have identical costs in the long run. Assume a firm discovers some new technique of production which enables it to reduce costs and increase profits in the short run. Other firms will respond by copying this technique. They can do this because there is perfect knowledge in the industry and therefore there can be no industrial secrets. Firms will then start to cut prices, hoping to be able to expand their sales. If a firm fails to adopt the new techniques, it will start to make a loss when other firms expand supply and undercut its price. Eventually it will be forced either to leave the industry because it is uncompetitive, or to adopt the latest production techniques.

## PRODUCTIVE AND ALLOCATIVE EFFICIENCY

In Chapter 8 you learned about productive and allocative efficiency. Productive efficiency occurs when firms produce at an output where average cost is at a minimum. In the short run, if a firm is making a loss or making supernormal profit then it will not be producing at minimum average cost. Figures 5 and 6 show that this is true. However, in the long run a firm in perfect competition will produce at an output where average cost is at a minimum and so the firm will be productively efficient.

Allocative efficiency is where Price = Marginal Cost. Figures 5, 6, 7 and 8 show that this is true for a firm in perfect competition in the short and long run.

Therefore in perfect competition a firm will be productively and allocatively efficient in the long run but only allocatively efficient in the short run.

## ACTIVITY 4

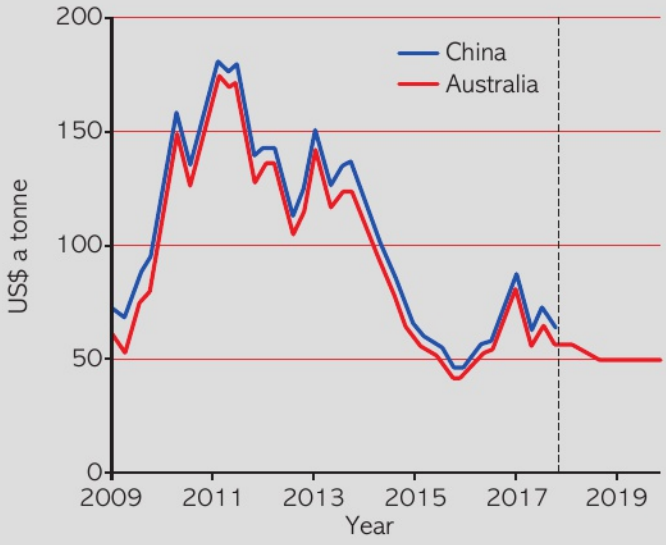
SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: IRON ORE INDUSTRY

## AUSTRALIAN GOVERNMENT FORECASTS 20% FALL FOR IRON ORE IN 2018

In the 2000s, the rise in price for iron ore, the rock from which iron is extracted, led to a large increase in investment in new mines. Supply expanded rapidly. However, growth in demand for iron ore has slowed since 2011. The growth in supply has been greater than the growth in demand, leading to excess supply.

*Resources and Energy Quarterly* predicts that the price of iron ore will fall 20 per cent in real terms during 2018 to $51.50 per metric tonne (i.e. per 1000 kg), down from an estimated $64.30 at the end of 2017. It is also forecasting a further fall in the price of iron ore of 9.2 per cent in 2019, to $46.70 per tonne. The forecast decline reflects the growing supply from low-cost producers in Australia and Brazil, and a reduction of demand from China as steel production slows. High-cost producers are leaving the industry. Firms with more cash are operating some of their mines at a loss.




▲ Figure 9 Iron ore price, Australia and China, quarterly figures

1 How have changes in the supply of and demand for iron ore led to a fall in the price? Use a perfect competition diagram alongside a demand and supply diagram in your answer.

2 Why are some iron ore mining companies prepared to operate their mines at a loss in the short run? Use the concepts of fixed and variable costs in your answer.

## THINKING LIKE AN ECONOMIST

### THE URANIUM MARKET

March 2011 was not a good month for companies mining uranium, the fuel used in nuclear power stations. An earthquake followed by a tsunami led to the meltdown of the Japanese nuclear plant at Fukushima. The Japanese government reacted by closing all 50 Japanese nuclear power stations, while Germany announced that it would close all of its 17 nuclear power stations by 2022.

The market for uranium is arguably perfectly competitive. There are a large number of mining companies producing uranium while there are a large number of electricity companies worldwide producing power from uranium-fuelled nuclear power stations. Following the Fukushima incident, the price of uranium fell from a high in early 2011 of $72 a pound to a low of $18 a pound in 2017. It has recovered slightly in 2018 to $22 a pound but it has remained relatively low.

Uranium is a homogeneous product and there is freedom of entry and exit to the uranium mining industry. Assume there is perfect knowledge in the market. On the **spot market**, mining companies are price takers for uranium ore.

Economic theory would suggest that a large fall in the price of uranium would lead to a fall in output as uranium mines became loss making. This is what happened, with some high-cost producers shutting their mines. Others carried on producing even though they were making losses. At $20 a pound, even the lowest-cost uranium mines in the world could not cover their costs.

In the short run, mining companies will continue in production so long as they are at least covering their variable costs. Low prices also led to mining companies cutting their plans to expand existing mines or open new mines.

However, demand for uranium is likely to rise in the future. Japan is slowly reopening some of its 50 nuclear reactors. Currently it has restarted 19. In 2018, there were also 59 nuclear reactors under construction, most of them in China, but also in Russia, the USA and the UAE. There were a further 514 either planned or proposed. Industry experts expect the price of uranium to rise in the future as a result. This will allow low-cost uranium miners to earn supernormal profits. This will incentivise mining companies to expand their operations.

## CHECKPOINT

1 What are the four characteristics of perfect competition?

2 Draw a diagram to show a firm in a perfectly competitive market making losses in the short run.

3 Draw a diagram to show a firm in a perfectly competitive market making supernormal profit in the short run.

4 Draw a diagram to show a firm in a perfectly competitive market in the long run.

5 Why will a firm not make supernormal profit in the long run in a perfectly competitive market?

6 When will a firm in perfect competition shut down in the short run?

7 Will a firm in perfect competition be productively efficient in the short run?

8 Will a firm in perfect competition be allocatively efficient in the short run?

9 Will a firm in perfect competition be productively efficient in the long run?

10 Will a firm in perfect competition be allocatively efficient in the long run?

## SUBJECT VOCABULARY

**economic welfare** the level of well-being or prosperity or living standards of an individual or group of individuals, such as a country

**perfect competition** a market structure where there are many buyers and sellers, where there is freedom of entry and exit to the market, where there is perfect knowledge and where all firms produce a homogeneous product

**price taker** a firm which has no control over the market price and has to accept the market price if it wants to sell its product

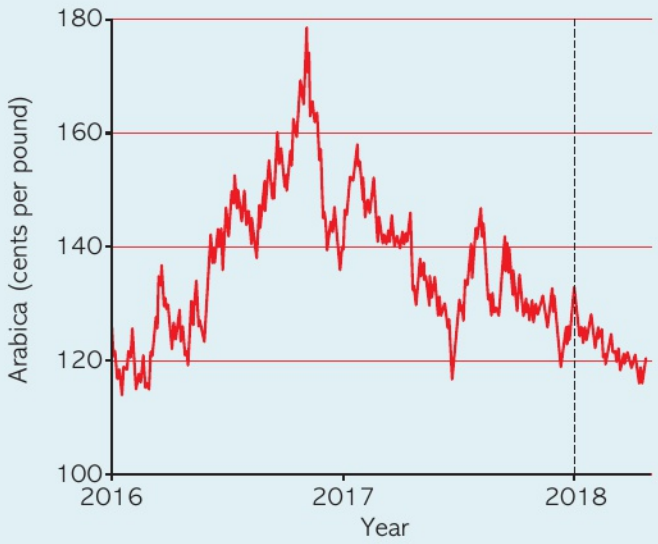
**spot market** a market where commodities (oil, metals, farm products etc.) are bought for immediate delivery, rather than a futures market

# EXAM PRACTICE

## COFFEE MARKET STRUGGLES

SKILLS ANALYSING, REASONING, CRITICAL THINKING

Expectations of a record coffee crop in Brazil, the world's largest producer, and high inventories among importing countries have been affecting coffee prices. Prices in 2018 fell to the lowest level in two years




▲ Figure 10 Coffee price, Arabica (cents per pound)

Source: adapted from © the Financial Times April 25, 2018, All Rights Reserved

to 115.30 cents a pound and, although they have recovered a little, coffee prices are well below the cost of production for many coffee farmers.

The oversupply of coffee could last into 2019. With such low coffee prices, many farmers have avoided selling their coffee. If the coffee price goes up, then the unsold coffee will come onto the market. The relatively high stocks held by importers in the US, Europe and Japan also act to prevent sudden price changes.

**1** Which one of the following statements is true for a coffee farm in a perfectly competitive market? **(1 mark)**

(a) The farm will be allocatively efficient in the long run but not in the short run

(b) The farm will be productively efficient only in the short run

(c) The farm will be both productively and allocatively efficient in the short run

(d) The farm will be productively efficient only in the long run

**2** Explain two characteristics which might make the world coffee market perfectly competitive. **(4 marks)**

**3** Examine the likely effect of the change in world coffee price in 2018 on an individual coffee farmer. Illustrate your answer with an appropriate diagram (assuming perfect competition). **(8 marks)**

**4** Discuss whether a large number of farmers switching to growing alternative crops would reverse this trend in losses for individual coffee farmers. Illustrate your answer with an appropriate diagram(s). **(14 marks)**

### EXAM HINT

It is important throughout your answers to use economic concepts. If there are fewer farmers supplying coffee there will be a change in the market supply curve. Show this on an appropriate diagram. Draw conclusions as to what will happen to the market price and how this will affect farmers who remain in the market and grow coffee. Include a diagram for the effect on an individual coffee farmer. Use a perfect competition diagram to analyse under what circumstances firms would cease to produce in the long run. Will this change lead to a long run equilibrium? What is likely to happen if demand for coffee increases? What will happen if there is a bad harvest? In a concluding paragraph, weigh up the likelihood of firms making normal profit in the long run. It may depend on whether there is a large enough number of farmers leaving the market for the existing firms to return to profitability.

# 11 MONOPOLISTIC COMPETITION

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the assumptions of monopolistic competition
- Understand the different types of product differentiation: physical; marketing; distribution
- Know how to identify profit maximising equilibrium in the short run
- Know how to identify profit maximising equilibrium in the long run
- Understand whether a firm will be productively efficient or allocatively efficient in the short run and long run

## GETTING STARTED

How many hair salons are there within three miles of either your school/college or your home? How do they compete with each other? What do you think limits the price they can charge their customers?

## THE ASSUMPTIONS OF MONOPOLISTIC COMPETITION

The theory of monopolistic competition has almost the same characteristics as that of perfect competition, namely:

- there is a large number of buyers and sellers in the market, each of which is relatively small and acts independently
- there are no barriers to entry or exit
- firms are profit maximisers.

However, one assumption is different:

- firms produce differentiated or non-homogeneous goods.

It can be argued that relatively few industries possess these characteristics. Most industries have concentration ratios which would suggest they are oligopolistic in character. However, examples of industries that do display these characteristics might be the small hotel trade, restaurants or furniture making.

## THE DOWNWARD SLOPING DEMAND CURVE

If a firm produces a product which is slightly different from that of its competitors, then it has a certain amount of market power. It will be able to raise price, for instance, without losing all its customers to firms which have kept their prices stable. So it is not a price taker like a perfectly competitive firm. However, because there are a large number of firms in the industry producing relatively similar products which are close substitutes, its market power is likely to be relatively weak. Small changes in price are likely to result in relatively large changes in quantity demanded as consumers choose to buy close substitutes instead (i.e. demand is likely to be relatively elastic).

LINK Student Book 1, Chapter 8

The demand curve facing the firm is therefore downward sloping but elastic (i.e. it will operate on the upper portion of its demand curve). The firm's revenue and cost curves are shown in Figures 1 and 2. The reasons why the marginal revenue curve is below the average revenue curve and the cost curves are U-shaped are explained in more detail in Chapter 13 on monopoly.

## DIFFERENT TYPES OF PRODUCT DIFFERENTIATION

Product differentiation is a way in which firms make customers think that their products are different to competitors' products. These differences can be real or they can just be thought to be different by consumers. Firms can differentiate their products in a number of ways:

- **Physical differentiation** is where a firm makes its product slightly different to competitors' products, perhaps with a different design, colour, special features, performance or size. For example, restaurants serve different food in a different style of surroundings to make them physically different to nearby restaurants.
- **Marketing differentiation** is where a firm uses different packaging and promotions to create a different brand image for their product compared

with their competitors. For example, in the confectionary market products are branded and a firm will make each product, such as a chocolate bar, appear different to competitors' brands by using different packaging and advertisements.

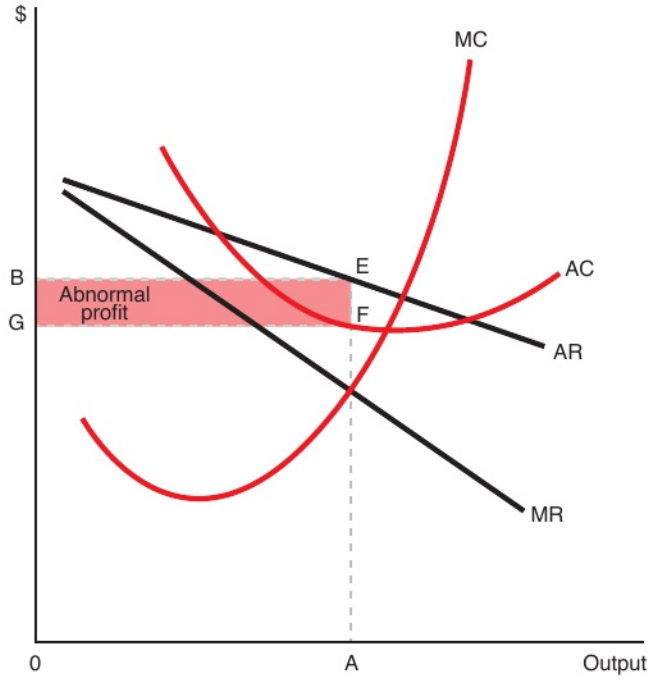
- **Distribution differentiation** is where the method of getting the product to the customer is different to competitors. For example, a firm selling clothes may only sell online whereas another clothes shop may only sell through shops in malls where customers can enjoy the experience of looking at and trying on the clothes before buying. Other clothes retailers may do both.

## PROFIT MAXIMISING EQUILIBRIUM IN THE SHORT RUN

In the short run, firms in a monopolistically competitive industry can earn supernormal profit or they can make losses. Figure 1 shows a firm making supernormal profits. The firm will produce where MC = MR because it is a profit maximiser. This means that it will produce at an output level of OA. It will charge a price based on its demand or average revenue curve, in this case OB.

**FIGURE 1**

**Short-run equilibrium for a monopolistically competitive firm earning supernormal profit**
A firm will produce where MC = MR in equilibrium. Because average revenue is above average cost at the equilibrium level of output of OA, it will earn supernormal profit of BEFG.

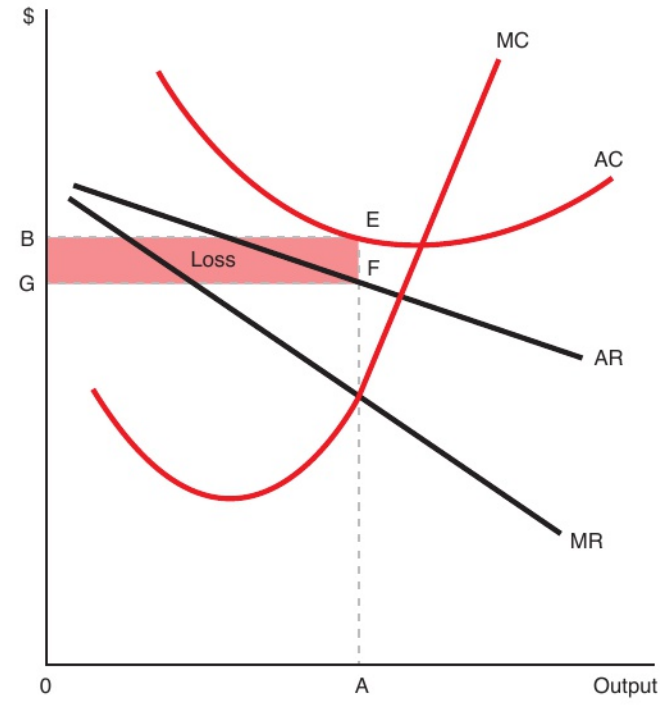



The average price, or average revenue, will be above the average cost. It will therefore make supernormal profits per unit of EF and a total supernormal profit of BEFG.

Figure 2 shows a firm making a loss. It will produce where MC = MR in order to minimise its losses. It will charge a price based on its demand or average revenue curve, in this case OG. The average cost will be above the average price, or average revenue. It will therefore make a loss of EF per unit sold and a total loss of BEFG.

**FIGURE 2**

**Short-run equilibrium for a monopolistically competitive firm making a loss**
A firm will produce where MC = MR in equilibrium. Because average cost is above average revenue at the equilibrium level of output of OA, it will make a loss of BEFG.




## PROFIT MAXIMISING EQUILIBRIUM IN THE LONG RUN

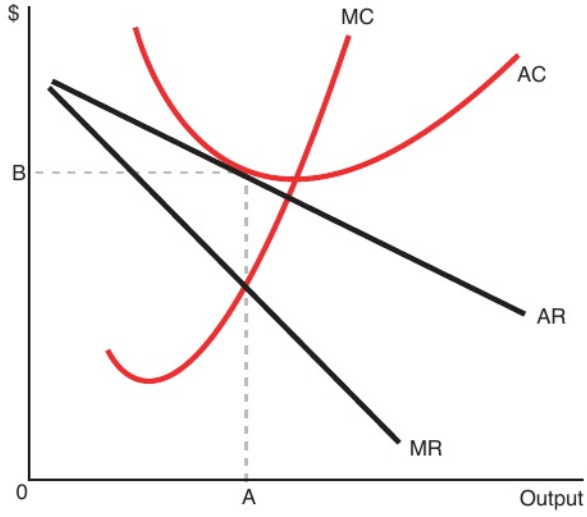
Long-run equilibrium is shown in Figure 3. The firm will produce where MC = MR, the profit maximising level of output. It will charge a price based on its demand or average revenue curve, in this case OB.

The firm in the long run will not be able to earn supernormal profit. This is because there is freedom of entry to the market. If the firm is making supernormal profit in the short run, then firms will come into the

## FIGURE 3

**Long-run equilibrium for a monopolistically competitive firm**

A firm will produce where MC = MR. As there are no barriers to entry, the firm will be unable to earn supernormal profits in the long run. Therefore it must also be true that AC = AR at the equilibrium level of output. This occurs when the AC curve is tangential to the AR curve.




### TIPS ON DRAWING THE LONG RUN DIAGRAM FOR MONOPOLISTIC COMPETITION

- First draw and label the axes.
- Next draw the AC curve but do not make it too 'U' shaped as the AR curve will need to be drawn tangential to the downward sloping section of the AC curve.
- Add the AR curve tangential to the downward sloping section of the AC curve – making sure it is not too steep as the MR curve will then need to be added, cutting the x-axis half way between the origin and the point where the AR curve would cut the x-axis.
- Draw on the MR curve – falling at twice the gradient of the AR curve.
- Finally add the MC curve – this needs to cross the MR curve at the same output as the point where AR and AC are tangential, i.e. just touch. The MC curve also needs to cut the AC curve at the minimum point. It is easier to draw the MC curve last so you can make sure MR = MC is where AR = AC and that MC also cuts AC at its minimum point.

industry attracted by the high level of profits. This will increase supply in the market. As a result, each firm will see a fall in demand for its product, shifting the average revenue curve downwards to the point where average revenue is just equal to average cost.

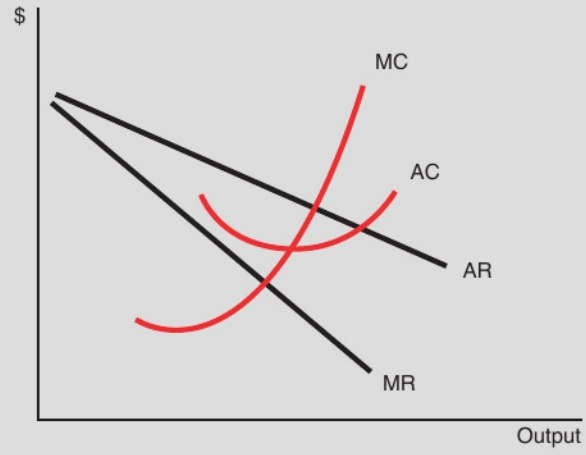
If firms in the industry are making losses in the short run, firms will leave the industry. This will reduce market supply. Each remaining firm will see an increase

## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: RESTAURANT IN MONOPOLISTIC COMPETITION

Lam Chin opened her own restaurant four years ago. Although her local town had plenty of cafes, there was nowhere to go if you wanted to eat at a good restaurant. It was a great success. She regained her investment within six months and after that, the profits just kept coming in. However, this success came to an end when another restaurant opened nearby. Her restaurant is still just about profitable enough for her to carry on trading, but if another restaurant opens in her town, she will probably sell up and move on.




▲ **Figure 4 Two years after opening, the marginal cost and revenue costs for Lam's restaurant**

1 Two years after opening, the marginal cost and marginal revenue curves for Lam's restaurant were as shown in Figure 4. Copy out Figure 4 and show on the diagram her supernormal profit.
2 On the same diagram, draw new revenue curves showing her position after the new restaurant opened. Label the profit maximising level of output.
3 Suggest reasons why the revenue curves have shifted and why she is no longer earning supernormal profit.

in demand for their product, shifting the average revenue curve upwards to the point where average revenue is just equal to average cost.

Therefore, in monopolistic competition two conditions must hold in long-run equilibrium:

- MC = MR because the firm is a profit maximiser
- AC = AR because competitive pressures that follow from the lack of barriers to entry and exit mean that a firm cannot either make a loss or earn supernormal profit.

This means that at the profit maximising output, the average cost curve is tangential to the average revenue curve as shown in Figure 3.

## PRODUCTIVE AND ALLOCATIVE EFFICIENCY

In Chapter 8 you learned about productive efficiency and allocative efficiency. Productive efficiency occurs when firms produce at the minimum average cost. In the short run, if a firm is making a loss or supernormal profit it is unlikely to be producing at minimum average cost. Figures 1 and 2 show this. However, in the long run a firm in **monopolistic competition** will not produce at an output where average cost is at a minimum either and so the firm will not be experiencing productive efficiency. Figure 3 shows this.

Allocative efficiency exists where price = marginal cost. Figures 1, 2 and 3 show that this is not true for a firm in monopolistic competition in the short run or in the long run.

Figure 5 shows a monopolistically competitive market in the long run. A monopolistically competitive firm cannot make supernormal profit in the long run because there is freedom of entry and exit to and from the market. Hence average revenue must equal average cost in equilibrium. Equilibrium output is at OA at an output level where MC = MR, the profit maximising condition. Equilibrium price is OB. The firm is not producing at the bottom of its average cost curve (point C) and hence it is not productively efficient. Nor is it allocatively efficient because it is not producing at F, where price = marginal cost. Marginal cost, AE, is lower than price OB at the equilibrium level of output.

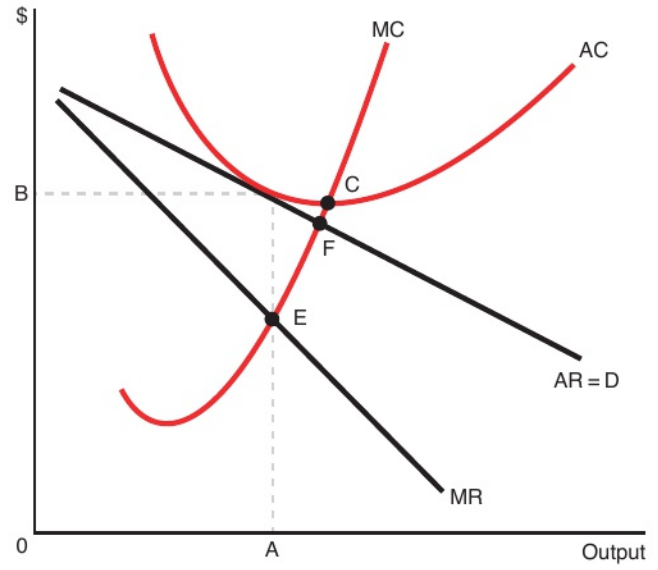
So, in the short run and in the long run, a firm in monopolistic competition will not be productively efficient or allocatively efficient.

**FIGURE 5**

**A monopolistically competitive market in the long run**

A monopolistically competitive firm is neither productively nor allocatively efficient at its long-run equilibrium point.

At the profit maximising output of OA, the firm is neither productively efficient (output is not at lowest average cost) nor allocatively efficient (where P = MC).




## THINKING LIKE AN ECONOMIST

### COFFEE CONSUMPTION HAS MOVED OUT OF MALLS AND INTO THE NEIGHBOURHOODS IN THE UAE

There are hundreds of coffee shops across the UAE including global brands but also many small local coffee shops. The coffee shop market is arguably monopolistically competitive in the UAE. No firm is large enough to set prices. In one sense they are selling a homogeneous product, coffee. However, each coffee shop, whether a global brand or a small local coffee shop, has some control over its market. Location is an important factor. People will not travel far to enjoy their coffee and people regularly use coffee shops for everything from work meetings to socialising or spending more time alone. While coffee remains the central focus, many cafes now provide comfort and convenience – free wireless services,

relaxed seating, music, newspapers and even books in some cases – as they attempt to make themselves different to the others.

In recent years, coffee culture has taken on a different appearance in the UAE, with Western-style cafes opening across the neighbourhoods. Coffee shops are now a major part of growing communities. Major coffee chains in the UAE include: Caffè Nero, Café Bateel, Caribou Coffee, Costa Coffee, Dunkin' Donuts, Gloria Jean's Coffees, Krispy Kreme, Blends and Brews, Starbucks and Tim Hortons. Although nowadays specialty coffee shops are very popular, what cannot be ignored is the love that the UAE has for Arabic coffee. Arabic culture dictates that as a sign of hospitality and welcome, one should serve coffee to guests. The word 'coffee' comes from the Arabic word Qahwa.

The Department of Economic Development (DED) looked into the most popular business outlets of the country and they revealed that coffee shops were rated the highest in a qualitative analysis of consumer experience across Dubai. The demand for high-quality coffee has gone up over the last two years, a report by Euromonitor noted. The market research company also highlighted an increase in the licences issued to

UAE cafes as it is quite easy to set up a coffee shop in the UAE. There is a definite demand for coffee and the high cost of specialty coffee hasn't stopped people enjoying these drinks.

In 2018, a typical cup of coffee from a western cafe cost more on average in Dubai than in nearly all of the world's most expensive cities. Buying a cup of coffee in Dubai costs an average of Dh16.46. In other cities such as Hong Kong, where the cost of living is the world's highest, the same cup costs Dh16.

## CHECKPOINT

1. What are the four characteristics of monopolistic competition?
2. Give three types of product differentiation a firm could use.
3. Draw a diagram to show a firm in a monopolistically competitive market making losses in the short run.
4. Draw a diagram to show a firm in a monopolistically competitive market making supernormal profit in the short run.
5. Draw a diagram to show a firm in a monopolistically competitive market in the long run.
6. Why will a firm not make supernormal profit in the long run in a monopolistically competitive market?
7. Will a firm in monopolistic competition be productively efficient in the short run?
8. Will a firm in monopolistic competition be allocatively efficient in the short run?
9. Will a firm in monopolistic competition be productively and allocatively efficient in the long run?
10. Will a firm in monopolistic competition be dynamically efficient?

## SUBJECT VOCABULARY

**monopolistic competition** a market structure where a large number of small firms produces non-homogeneous products and where there are no barriers to entry or exit

# EXAM PRACTICE

## MALAYSIAN FURNITURE INDUSTRY

SKILLS ANALYSING, REASONING, COMMUNICATION

Malaysia is a country that has many different types of wood available for furniture making. The furniture industry has been growing for over 20 years with much of its output exported around the world. Many of the firms have a reputation for producing high quality furniture and delivering orders on time. The firms producing furniture are very successful and there are now over 700 furniture manufacturing firms in Malaysia. There are many different styles of furniture produced by these firms. New firms find it easy to set up and start producing their own style of furniture, as there is no problem in buying locally sourced wood. However, finding skilled workers can be more of a problem as the industry continues to expand.

Sales have been growing each year and 2018 was no exception, with demand once again increasing. Locally sourced timber helps the Malaysian firms to be competitive with furniture produced in other countries and to keep exporting furniture products around the world.

Q

1 Explain two features of the furniture industry in Malaysia that mean it could be classified as monopolistically competitive. **(4 marks)**

2 Using a monopolistic competition diagram, explain the likely impact on an individual furniture firm in Malaysia of the increasing demand for furniture. **(4 marks)**

3 Using a monopolistic competition diagram, explain the likely impact on an individual furniture firm in Malaysia of the increasing cost of wages. **(4 marks)**

4 Analyse whether furniture manufacturing firms in Malaysia will be efficient. **(6 marks)**

5 Using an appropriate monopolistic competition diagram(s), evaluate the likely long run position for firms in this market in five years' time. **(20 marks)**

### EXAM HINT

Explain the impact of increasing demand for furniture manufacturers in the long run and how the industry might be affected by increasing competition from other countries. Indicate that in the short run, theory says that many firms should be making supernormal profit. Do you think that every furniture manufacturer in Malaysia is making supernormal profit in an economic sense? If not, why not? What does the diagram for the long-run equilibrium point for the furniture industry look like? What factors might determine where this long-run equilibrium point will be in terms of revenues and costs? Can individual furniture firms create customer loyalty and if so how? In your conclusion, weigh up the significance of the effects of competition from firms in other countries and changes in demand from customers in different countries across the world.

# 12 OLIGOPOLY

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the assumptions of oligopoly
- Understand what is meant by barriers to entry and barriers to exit
- Understand what is meant by interdependence of firms
- Understand the costs and benefits of collusion to producers, consumers, workers and government
- Understand and explain three examples of price competition and five examples of non-price competition in oligopoly
- Understand the costs and benefits of price and non-price competition to firms, consumers, employees and suppliers

## GETTING STARTED

Make a list of 15 different chocolate bars or other types of sweets. Who owns and produces these chocolate bars? Does the price of these chocolate bars go up and down like the price of airline tickets? How do manufacturers of chocolate bars compete with each other?

## THE IMPORTANCE OF OLIGOPOLY

Most markets could be said to be imperfectly competitive. A few are monopolistically competitive but the majority are **concentrated markets**, dominated by a few suppliers. Therefore the theory of **oligopoly** is arguably the most important of the theories of the firm. Yet there is no single dominant model of oligopoly within economics. Rather there are a number of competing models which make different assumptions and lead to different conclusions.

In the rest of this chapter, we will consider **market conduct**. This is how oligopolistic firms behave in order to achieve their objectives.

## ASSUMPTIONS OF OLIGOPOLY

For an industry to be called 'oligopolistic', there must be two key characteristics of its market structure:

- Supply in the industry must be concentrated in the hands of relatively few firms. For instance, an industry where the three largest firms produce 80 per cent of output would be oligopolistic. However, alongside a few very large producers there may also be a much larger number of very small firms, so an industry with 100 firms, where the three largest firms produced 80 per cent of the output, would still be classed as oligopolistic.
- Firms must be **interdependent**. The actions of one large firm will directly affect another large firm. In perfect competition, firms are independent. If one farmer decides, for instance, to grow more wheat, this will have no impact on the price or sales of other farmers in the industry. In oligopoly, if one large firm decides to pursue policies to increase sales, this is likely to come at the expense of other firms in the industry. One firm is likely to sell more only by taking away sales from other firms. Interdependence means that firms will face uncertainty. They do not know how other firms will react if they change their competitive strategy, such as changing their price or their range of products.

Economists are also interested in two other characteristics of oligopolistic markets:

- Are there barriers to entry to the market? In this chapter, we will assume that oligopolistic markets have high barriers to entry and exit.
- Are products differentiated? If there is product differentiation, then each firm sells slightly different products. For example, car manufacturers all sell cars but each produces unique models of car which normally cannot be bought from another manufacturer. However, in some highly concentrated oligopolistic markets where firms are interdependent, they sell identical, homogeneous products, such as electricity. In this chapter, we will explore oligopolistic markets where there is product differentiation.

## BARRIERS TO ENTRY AND EXIT

There are a number of barriers to entry which prevent potential competitors from entering an industry.

**Economies of scale** For oligopolies, economies of scale are often very large. A few firms operating at lowest average cost (the optimum level of production) can satisfy all the demand of buyers (see Student Book 1, Chapter 5). New firms entering the market are likely to produce less and therefore have much higher average costs than the few established producers. An example would be a car manufacturer or oil producer.

**Patents** Patent laws can prevent competitor firms from making a product for a given number of years after its invention. Pharmaceutical firms are only likely to carry out research and development for new medicines if they can regain the huge costs of investment by charging high prices for a period of time, while they are protected from competition by patents. This makes it possible for oligopolists to maintain their dominant position in the market.

**Branding** Large firms in an industry may be able to put in place very high barriers to entry through high spending on advertising and marketing. This makes consumers associate a particular type of good with the firm's product, creating a powerful brand image. Branding keeps customers loyal to these brands and makes it difficult for new firms to enter the market and compete with the large firms in the oligopoly.

**Sunk costs** These are costs which cannot be recovered if the firm leaves the industry – they are exit costs. One example of a sunk cost is money spent on advertising. This is a barrier to entry into the oligopoly, but it is also a barrier to exit as advertising costs cannot be recovered if a firm leaves the market. Other sunk costs that create barriers to exit include the cost and time involved in making employees redundant, selling premises and inventory or notifying customers and suppliers. Barriers to exit increase when employment laws make it more difficult to make staff redundant.

**Legal barriers** The law may give firms particular privileges. The government may give a firm exclusive rights to the production of a product. For example, it may give broadcast licences to commercial television companies so no other companies can set up and compete. This makes it possible for the oligopolists to maintain their dominant position in the market.

**Limit pricing** There is more information about limit pricing on page 90.

### ACTIVITY 1

SKILLS ANALYSIS

**CASE STUDY: BARRIERS TO ENTRY AND EXIT**

1 What barriers to entry and exit might there be to the food retailing industry in your country?
2 Are the barriers to entry and exit different for the banking industry in your country?
3 Are any of these barriers put in place by the large firms in these markets?

## INTERDEPENDENCE OF FIRMS

In an oligopoly there are a few large firms and the actions of any one firm will have an impact on the other large firms in the market. For example, if one large firm in an oligopoly reduces its price then this will have an effect on the other firms in the market and they will react to this price change. They will probably reduce their prices so that they do not lose market share. The actions of one firm are interdependent with the actions of the other large firms in the oligopoly. One firm will not make a decision without taking into account how the other large firms in the oligopoly might react, and this leads to firms behaving in different ways to the other market structures. **Game theory** attempts to explain how firms may behave in an oligopoly but interdependence may lead to **collusion** or the forming of a **cartel**. Also, the effect of interdependence on the pricing policies of these large firms may lead to **price leadership** or **price wars** in these markets.

## COLLUSION

Oligopolistic firms may compete among themselves. However, there is a very strong incentive for oligopolistic firms to collude. This means they make agreements among themselves so as to restrict competition and maximise their own benefits. **Collusive oligopoly** is said to exist when oligopolistic firms collude.

To understand the benefits of collusion, consider Table 1. It shows the average costs and revenues for each firm in an oligopolistic market. Assume that all firms have identical average costs and revenues and they are all producing identical products. If they compete against each other, prices (or average revenues) are likely to be low. The lowest quantity at which they will be prepared to supply in the long run is six million units each. This is where their average costs, including normal profit, equal their average revenue.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS

### CASE STUDY: COCA-COLA AND PEPSI COLA

Coca-Cola is the largest soft drinks manufacturer in the world. It sells over 500 different brands of sparkling and still drinks, including Coca-Cola itself, the original drink which started the company. In the USA, in 2018, Coca-Cola had 42 per cent of the soft drinks market compared to 28 per cent for PepsiCo. Traditionally, Coca-Cola and PepsiCo have been involved in a highly competitive fight for market share both in the USA and worldwide. Market share gained by Pepsi has come at the expense of market share lost by Coca-Cola and vice versa. In recent years, however, both companies have come under pressure from manufacturers of what are sold as healthier soft drinks, from water to fruit juices to vitamin drinks. Coca-Cola and PepsiCo sell a combined $100 billion a year in drinks and snacks and have tried to reduce their reliance on sugary drinks by launching or acquiring new products, particularly in faster-growing drinks categories such as water and tea. In recent years, Coca-Cola has bought or taken stakes in brands such as Honest Tea, the organic tea brand, Suja Life, a cold-pressed juice maker, and AdeS, a soya-based beverage brand.

1 Give reasons why the soft drinks market might be categorised as oligopolistic. Consider:
(a) concentration; (b) interdependence;
(c) barriers to entry; (d) product differentiation.

However, if they collude, they can fix output at a level that maximises their profit. If each firm only produces three million units, then each can earn $9 million in supernormal profit. Restricting output by colluding leads to higher prices and higher profits. Collusion is an attempt to overcome the uncertainty of the behaviour of the other firms in the market.

| Million units | $ millions | | |
|---|---|---|---|
| Output | Average revenue | Average cost (including normal profit) | Total supernormal profit |
| (A) | (B) | (C) | (B – C) × A |
| 1 | 10 | 5 | 5 |
| 2 | 9 | 5 | 8 |
| 3 | 8 | 5 | 9 |
| 4 | 7 | 5 | 8 |
| 5 | 6 | 5 | 5 |
| 6 | 5 | 5 | 0 |

▲ Table 1

**Formal collusion** exists when firms make overt or covert agreements among themselves to limit competition. For example, two firms in a market may share new contract work between themselves or agree not to sell in certain geographical areas. They may come to a **price agreement** where they fix prices for their products.

Some formal collusion is open for everyone to see. However, collusion is illegal in EU countries, the USA and many other countries. For this reason, firms wanting to collude have to do so in a way that is hidden from legal authorities. If government investigations find out about collusion, action will be taken against these firms.

**Tacit collusion** is when firms do not make any formal agreements about cooperating together but instead, monitor each other's behaviour closely. Unwritten rules are developed which become custom and practice, defining ways in which firms may or may not compete.

One form of tacit collusion is price leadership. This is when one firm in the market sets a price that other firms in the market follow. The price leader is often the largest firm (the dominant firm) in the market and the **price followers** are the smaller firms in the market. The firms in the industry effectively collude to maximise their profits. The price leader sets a price that allows it to earn supernormal profit but at the same time also allows price followers to earn a higher profit than would be the case if competition broke out in the market.

Tacit collusion can take other forms. For example, an unwritten rule in a market may be that firms do not try to take away existing customers from other firms. Or there may be an understanding that advertising expenditure should be kept low.

## GAME THEORY

One way to understand why collusion, whether formal or tacit, benefits all firms in the market is to use game theory. Game theory is a theory which can be used in many subject disciplines, not just economics. Game theory considers what would be the outcomes if two or more players were interdependent and made certain choices.

The most famous example of game theory is the **prisoner's dilemma**. Two individuals have committed a crime together and have been arrested. They are kept in separate cells. Each prisoner knows that there is enough evidence to find them guilty of a related minor charge for which they can expect to serve six months in jail. However, they have been arrested for a more serious offence. The police offer each prisoner a

deal. If they confess and state their fellow prisoner is guilty, they will get a reduced sentence, which means they will serve a jail sentence less than six months. But their fellow prisoner will get five years in jail. However, if both confess, then they will both get two years in jail. If they could get together and collude, they would choose to tell the police officer that they are innocent and both would get six months on the minor charge. But in separate cells, neither trusts the other. So they both choose to plead guilty and both get two years in jail.

In an oligopolistic market, there are a few interdependent dominant firms. Typically, if they can collude, they can raise prices and their profits at the expense of customers. But they need to be able to trust each other. Consider Table 2 which shows a payoff matrix. There are just two firms in the industry. Each firm has two strategies. It can either raise the price of its product or leave it unchanged. The figures in the table represent the payoffs from the interaction of strategies by the two firms. In this case, they are the profits for Firm A (in black) and Firm B (in red) which would result from each strategy.

| | | Firm B | |
|---|---|---|---|
| | | Raise price | Leave price unchanged |
| Firm A | Raise price | \$100m/\$70m | \$30m/\$40m |
| | Leave price unchanged | \$40m/\$20m | \$50m/\$30m |

▲ Table 2 A payoff matrix which shows that two firms have an incentive to collude

Which strategy should Firm A use? Firm A is better off raising its price if Firm B also raises its price. Instead of earning \$50 million in profit if prices are left unchanged, it could earn \$100 million. But if Firm B chooses to leave its price unchanged when Firm A raises its price, Firm A will be worse off, earning only \$30 million profit.

Similarly, Firm B will be better off if both firms raise their prices. But like Firm A, if it chooses to raise its price when Firm A leaves its price the same, it will be worse off.

For both firms, the safe option to choose is to leave their prices unchanged. However, if the two firms collude by agreeing to raise prices, they will both be better off. In this market, there is a strong incentive for firms to collude.

It is not always the case that firms are better off colluding to raise prices. Table 3 shows a market where there is instability. There is no set of strategies which would make both firms better off. If, for example, both firms raise their prices, Firm B will earn higher profits of \$15 million but Firm A will earn lower profits of \$40 million. In this market, game theory predicts that both firms will be constantly adjusting their prices to attempt to take advantage of the decisions of the other firm.

| | | Firm B | |
|---|---|---|---|
| | | Raise price | Leave price unchanged |
| Firm A | Raise price | \$40m/\$15m | \$30m/\$25m |
| | Leave price unchanged | \$10m/\$35m | \$50m/\$10m |

▲ Table 3 A payoff matrix which shows an unstable market

## CARTELS

A cartel is where there is a wide-ranging agreement among several firms in a market. In this type of formal collusion, firms often agree to limit their output so they can raise prices. Limits on the output of each firm need to be agreed. Regular meetings to discuss issues and problems are another feature of cartels. The most famous cartel today is not made up of firms but of countries. OPEC (Organization of the Petroleum Exporting Countries) is a group of oil-producing countries that today sells less than half of the world output of oil but has more than half of the world's known oil reserves. OPEC attempts to influence the world price of oil by restricting supply. Each member country is given a production quota that is renegotiated every six months at OPEC meetings. This is an example of formal collusion.

For a cartel to function effectively, a number of conditions must apply:

- An agreement has to be reached. This is likely to be easiest in oligopolistic industries where only a few firms dominate the market; the larger the number of firms, the greater the possibility that at least one main firm will refuse to collude. For instance, collusion is far more likely in a mature industry such as steel manufacturing or brick making than in a rapidly changing industry such as the computer industry.
- Cheating has to be prevented. Once an agreement is made and profitability in the industry is raised, it would benefit an individual firm to cheat so long as no other firms do the same. For example, it would benefit a small producer in the cartel with 10 per cent of the market to expand production to 12 per cent by selling slightly below the cartel price or

supplying more than the agreed quota. The profit it would lose by the small cut in price on the 10 per cent is more than offset by the gain in profit on the sale of the extra 2 per cent. However, if every producer does this, the market price will quickly change to the free market level and all firms will no longer earn supernormal profit.

- Potential competition must be restricted. Supernormal profits will encourage not only existing firms in the industry to expand output but also new firms to enter the industry. Firms already in the industry which do not join the cartel may be happy to follow the policies of the cartel in order to earn supernormal profits themselves. Firms in the cartel could also agree to increase barriers to entry to the industry.

## COSTS AND BENEFITS OF COLLUSION TO PRODUCERS, CONSUMERS, WORKERS AND GOVERNMENTS

**Producers** will be able to charge a higher price than if there was no collusion. Therefore firms should be able to gain higher profit as a result of higher prices. Markets will also be less competitive, meaning firms may not need to spend as much on advertising and therefore save on costs.

Firms cannot expand sales if they want to as they have to stick to the agreed quota for output. This will restrict the ability of the firm to increase its market share. Some may receive a lower quota of output than they wish to produce and so sales revenue will be

## ACTIVITY 3

SKILLS REASONING

### CASE STUDY: DIAMOND MARKET

The De Beers diamond cartel was one of the oldest cartels operating in the world. In the twentieth century, De Beers was the world's largest diamond producer, producing diamonds mainly from its mines in Africa. Until 2000, through its Central Selling Organisation (CSO), it attempted to buy up all the world's diamond production. It then sold these diamonds to customers at regular sales. It attempted to regulate the price by selling fewer diamonds when prices were falling and more when prices were rising. In 1999, it held unsold diamonds worth $5.2 billion.

However, in 2000, CSO announced that it would cease to act as a cartel. There were a number of reasons for this. One was that an increasing proportion of world diamond production was being sold outside of the Central Selling Organisation. Producers in countries such as Russia were finding it more profitable to sell directly to the market rather than sell to the CSO because they could get better prices. Another problem was the rising cost to De Beers of buying diamonds from other producers. It was also attempting to buy up diamonds which were being mined illegally in war torn countries such as Angola and the Democratic Republic of Congo. These diamonds came to be called 'blood diamonds' because their sale often passed through warring groups, which used the money to buy weapons. De Beers feared that the image of diamonds as a whole would become blemished in the same way that the fur trade had acquired a bad reputation. A further reason was growing worldwide demand for diamonds, particularly from India and China. In the USA, selling De Beers diamonds was illegal under anti-trust laws.

Abandoning the cartel would enable De Beers to sell into the US market directly.

1. How did De Beers' Central Selling Organisation raise prices and profits for diamond producers in the cartel before 2000?
2. Why was there an incentive for producers outside the cartel to cheat?
3. Why might De Beers have considered it in its best interests to dismantle its cartel because of (i) rising demand for diamonds and (ii) the mining of diamonds in war torn areas of the world?

lower. However, prices will probably be higher than if there was no collusion and so profit may still be higher than if they were producing a higher output at a lower price.

**Consumers** will see more stability in the market as firms are less likely to leave the market and output will be more assured. However, consumers will pay higher prices than if there was no collusion and there will be a lower output to purchase. Restricted competition between firms may also mean there is less choice as consumer preferences are less important to the firms in the market.

**Workers** will benefit from a stable output of products so workers are less likely to lose their jobs due to firms going bankrupt. If firms earn supernormal profit then it might be possible for workers to gain a wage increase. However, because there are a restricted number of firms in the market there are likely to be fewer opportunities to move to another firm.

**Government** will possibly receive higher tax payments from firms earning higher profits. However, there is less competition in the market if firms collude and this is likely to lead to inefficiency. Therefore firms are not likely to be allocatively efficient or productively efficient and they may not be dynamically efficient either.

## TYPES OF PRICE COMPETITION IN OLIGOPOLY

Firms in an oligopolistic market can engage in a variety of types of price competition. Three examples are price wars, **predatory pricing** and **limit pricing**.

### PRICE WARS

Typically, price wars occur in markets where non-price competition is weak. For example, goods may only be weakly branded. Consumers may be highly price conscious and advertising may fail to persuade them that one firm's product is better than another. They also occur in markets where firms find it difficult to collude either formally or tacitly. Price wars tend to drive prices down to levels where firms are frequently making losses. In the short run, firms stay in the market because they are at least covering their variable costs of production and making some contribution to fixed costs. In the long run, prices must rise – perhaps because supply falls as firms leave the market or because demand rises. This can happen between the large oil companies at gas/petrol stations when there are occasionally price wars as companies try to gain market share.

Price wars occur between firms that are interdependent and competing against each other. This is different to an individual firm cutting its prices to boost sales. This may involve holding sales of discounted goods and it is not the same as a price war.

### PREDATORY PRICING

Predatory pricing occurs when an established firm is under threat from a new entrant into the market. The established firm responds by setting such a low price that the new entrant cannot make a profit. The aim of the established firm is to drive the new entrant out of the market. Once this is achieved, the existing firm will put its prices back up to their previous levels.

Predatory pricing can also be used by one firm in a market against another existing firm. If one firm judges that the other firm is gaining too much of a competitive advantage and gaining market share, it may defend its share by cutting prices. This may take away market share from the other firm or even force it out of the market. For example, low cost airlines starting to offer their services on a new route may be undercut by the existing large airlines to ensure the new route is not successful.

### LIMIT PRICING

Limit pricing occurs when firms set a low enough price (the limit price) to discourage new entrants from coming into the market. For example, assume that there is tacit collusion in a market with four firms. They all charge around $10 for a good that they make. If $10 is a very high price and allows the firms to earn high levels of supernormal profit, then new entrants are likely to come into the market. By charging a lower price, they can gain market share and still make at least normal profit. It would be better for existing firms to charge a lower price than $10. The price has to be high enough for them to make at least normal profit but low enough to discourage any other firm from entering the market. The limit price will be greater the higher the barriers to entry to the market. This is because the higher the barriers to entry, the less likely it is that a new entrant will come into the industry. For example, there might be large initial costs that could not be recovered if the new entrant left the industry (i.e. there are high sunk costs). If sunk costs are high, a firm is unlikely to risk entering the industry unless there are large profits to be made.

## TYPES OF NON-PRICE COMPETITION

In an oligopoly, firms do not usually benefit from competing in terms of price. Lowering prices may just lead to all the large firms reducing their prices and only

the consumers benefit as the firms earn lower revenue and often lower profit. If there is no collusion, large firms will compete using non-price competition.

### ADVERTISING AND BRANDING

Advertising and branding are essential to inform buyers in the market that the good is on sale and to change their views of a product in a favourable manner. It is one-way communication from a firm to potential customers (for example via ads on television, in newspapers, or on social media). Promotion includes ways to encourage the consumer to make a purchase such as competitions, free samples, buy-one-get-one-free offers or discount vouchers.

Branding encourages consumer loyalty as consumers feel reassured about the quality of products – such as Montblanc pens, for example – and are less likely to try other brands. This makes it more difficult for new brands to become established in the market.

### QUALITY

A brand can be differentiated as being of a high quality to make it stand out from competitors' brands. Examples are sports shoes where the main global companies, such as Nike or Adidas, brand their sports shoes as much higher quality than the many other sports shoes on the market. Firms will often charge a premium price for products that are perceived as higher quality than competitors' products.

### ENDORSEMENT

Some firms pay famous people to use their products and feature in their advertising, such as the deal between Serena Williams and Tempur mattresses, or the singer, Rihanna, seen wearing New Balance clothing and shoes. This encourages consumers to have faith in the brand as being of good quality, which leads to brand loyalty and higher sales for these firms.

### PRODUCT PLACEMENT

Product placement is a way to develop consumer awareness of brands in the target market by featuring them indirectly in the media. *Transformers 4*, released in cinemas in 2014, featured various Chinese products, including bottled water and banking brands. The companies behind these brands went to great expense to have their products included in the film to promote the brands in China.

### AFTER-SALES SERVICE

Some firms offer excellent after-sales service so that customers will prefer to buy from them rather than a firm that just offers the guarantee required by law. Kia, a car manufacturer, offers a seven-year guarantee as part of the purchase of one of their new cars, which differentiates it from other car manufacturers. This will encourage customer loyalty as well as word-of-mouth promotion of the products. It is much harder to attract a new customer than to retain an existing customer and so encouraging customer loyalty through good after-sales service can ensure the large firm in an oligopoly retains its customer base.

## ACTIVITY 4

SKILLS REASONING, ANALYSIS

### CASE STUDY: BRANDING

Dyson, founded in 1993, is most famous for its innovative vacuum cleaner. Its bagless vacuum technology became dominant in the vacuum cleaner market and quickly established the Dyson brand as representing leading edge technology. The company has just launched the Cyclone V10 in China. It is powered by Dyson's most advanced motor technology; the motor is only half the size and weight of the previous model, the motor V8. This is the most powerful digital motor in the brand's product range, and the suction rate is about 13 per cent better than the V8. It is priced from $600 to $700 and is aimed at the growing number of middle-income earners in China.

Dyson has moved into several categories in recent years and now makes robotic floor cleaners, hairdryers, air purifiers, heaters and fans as well as products using its Airblade technology, including a unique tap with an inbuilt hand dryer.

1 What is meant by the term 'brand'. Refer to Dyson in your answer.
2 Vacuum cleaners can be bought for less than $100. To what extent do consumers benefit from being offered branded vacuum cleaners such as the Dyson Cyclone V10?

## COSTS AND BENEFITS OF PRICE AND NON-PRICE COMPETITION TO FIRMS, CONSUMERS, EMPLOYEES AND SUPPLIERS

LINK Student Book 1, Chapter 8

**Firms** If price elasticity of demand is elastic then if firms lower prices it will result in revenue increasing because the loss in revenue from the lower price will be more than made up by the higher proportionate increase in sales. Lower prices mean profit margins are lower.

Non-price competition, such as advertising or promotions, attracts customers and is likely to increase sales and also sales revenue. However, advertising and promotion are expensive and add to firms' costs, reducing profitability.

**Consumers** Price competition will benefit consumers as prices will be lower. However, if firms lower prices they may not maintain the same quality of products.

Non-price competition can reassure consumers that the product they're buying is reliable and a good quality, branded good. However, prices might remain high if there is only non-price competition, leading to consumers having reduced **consumer surplus**.

**Employees** In an oligopoly the large firms are likely to benefit from higher sales and this may make jobs more secure. However, if firms earn less revenue because they are competing on price, this may mean costs are kept down by lower wages and workers will not benefit. This is especially true if there are only a few firms in the market as there will be fewer job opportunities.

Non-price competition may create a brand that employees enjoy being associated with. However, higher costs for the firm due to non-price competition may mean costs are kept down through lower wages. Again this will be especially true if there are few firms in the market and there are few opportunities for employees to find jobs with other firms.

**Suppliers** As large firms in an oligopoly are dominant in the market, suppliers may have increased sales if the firms' goods sell well due to lower prices if firms are competing in terms of price. However, if firms are keeping prices low then they may put pressure on their suppliers to reduce the prices they pay for their supplies so the oligopolist can maintain profit margins.

Non-price competition may also increase sales if the firms' branded goods sell well. However, suppliers may have increased costs if the large firms in the oligopoly want their components manufactured to a certain quality. This may involve using more specialist manufacturing processes or equipment.

## THINKING LIKE AN ECONOMIST

### THE SPORTSWEAR MARKET

The sportswear market is fiercely competitive. There are several large manufacturers, such as Adidas and Nike, and many smaller manufacturers around the world, such as Anta in China.

Each large manufacturer sells a range of differentiated products. So Adidas and Nike, for example, sell different items of sportswear in all significant sporting segments of the market – from general running clothing and shoes to more specialist sportswear produced specifically for particular sports or particular people. Branding is reinforced by extensive advertising. There are regular changes in the designs to encourage customers to change their sports shoes and clothing regularly and to gain market share over rivals.

Barriers to entry to the market are relatively high because marketing is a major cost. Adidas and Nike need to have brand recognition if they are to sell well. It is difficult for new entrants to gain brand recognition unless brand awareness is reinforced by such activities as sponsorship of sporting personalities (for example Roger Federer and Uniqlo for tennis sportswear) or teams (for example Anta and the Chinese team in the Winter Olympic games in 2022).

Firms in the industry are interdependent. For example, Adidas online sales rose 57% to almost €1.6bn in 2017 and in 2018, it planned to close stores and increase its investment in digital as it aimed to more than double online sales over the following two years. Adidas introduced a smartphone app that allows customers a high degree of personalisation. It has been launched in the US, the UK and Germany, and is set to go live in France, Spain and Canada in the coming months. Nike also plans to grow web sales – they hope to increase them to $7 billion in 2020 from $1 billion in 2015 (an increase of 600%). Nike is also introducing mobile shopping options for smartphone and tablet shoppers in the US and abroad. It is also working to expand its online presence to more international markets.

Therefore, it could be argued that the sportswear market is oligopolistic.

## CHECKPOINT

1 What are the two main characteristics of oligopoly?

2 What is meant by barriers to entry? Use examples in your answer.

3 What is meant by barriers to exit?

4 What is meant by game theory?

5 Why does game theory help to explain how some firms behave in an oligopoly?

6 What is meant by interdependence of firms in an oligopoly?

7 Why do firms collude?

8 What is meant by a cartel?

9 What is the difference between price leadership and price wars?

10 What are the costs and benefits of collusion to producers, consumers, workers and government?

11 Give three types of price competition that may be found in an oligopolistic market.

12 Give five examples of non-price competition a firm may use.

13 What are the costs and benefits of price competition to firms, consumers, employees and suppliers?

14 What are the costs and benefits of non-price competition to firms, consumers, employees and suppliers?

## SUBJECT VOCABULARY

**cartel** a group of firms that have made a formal agreement to limit competition in the market, for example by limiting output in order to raise prices

**collusion** collective agreements, either formal or tacit, between firms that restrict competition

**collusive oligopoly** a market with a high concentration ratio where a few interdependent firms cooperate, either formally or tacitly, to restrict competition

**concentrated market** a market where most of the output is produced by a few firms and where therefore the concentration ratio is high

**consumer surplus** the difference between how much buyers are prepared to pay for a good and what they actually pay

**formal collusion** when firms make agreements among themselves to restrict competition, typically by reducing output, raising prices and keeping potential competitors out of the market; cartels are one example of formal collusion

**game theory** the analysis of situations in which players are interdependent

**interdependent** a situation where the actions of one large firm will directly affect another large firm

**limit pricing** when firms set a low enough price to deter new entrants from coming into the market

**market conduct** the behaviour of firms, such as pricing policies, promotion of products, branding and collusion with other firms

**oligopoly** a market structure where there is a small number of firms in the industry and where firms are interdependent with one another, creating uncertainty; barriers to entry are likely to exist

**predatory pricing** a pricing strategy where an incumbent firm lowers its prices when a new entrant comes into the market in order to force the competitor out of the market, and then puts prices back up again once this objective has been achieved

**price agreement** a type of formal collusion where two or more firms arrange to fix prices of their products

**price follower** a firm which sets its price by reference to the prices set by the price leader in a market

**price leadership** when one firm, the price leader, sets its own prices and other firms in the market set their prices in relationship to the price leader

**price wars** a situation where several firms in a market repeatedly lower their prices to outcompete other firms; the objective may be to gain or defend market share

**prisoner's dilemma** a game where, given that neither player knows the strategy of the other player, the optimum strategy for each player leads to a worse situation than if they had known the strategy of the other player and been able to co-operate and co-ordinate their strategies

**tacit collusion** when firms collude without any formal agreement having been reached and where there is no explicit communication between firms about strategies; an example is price leadership

# EXAM PRACTICE

## THE WORLD'S BIGGEST PHARMACEUTICAL COMPANIES BY REVENUE IN 2018

SKILLS REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

The pharmaceutical industry produces medicines and treatments to help make our lives better. Companies spend huge amounts of money on the research and development of new drugs to treat diseases and medical conditions. These go through many years of trials before the drugs are allowed to be sold. Out of the thousands of new drugs developed, only a small percentage are ever allowed onto the market; the rest are withdrawn and the research costs are lost. When successful, these companies rely on patents to protect them from competition, while they recoup the investment in R&D to develop these drugs.

The global pharmaceutical industry had estimated revenues of $1.11 trillion in 2017. By 2020, this figure is set to rise to $1.43 trillion. Every year approximately $150 billion is spent by pharmaceutical companies on research and development projects. Newe firms rarely enter the market because development and marketing costs are so high.

When deciding which new drugs to develop, companies need to understand their competitors. Drug development is not only based on the best and most successful treatment for a condition or disease; it is just as important to research the market to determine whether your competitors are developing drugs for this market.

- US pharmaceutical companies have over 45 per cent market share of the global pharmaceutical industry. The next few years will see global growth due to increasing wealth worldwide, as well as increasing demand to maintain high levels of innovation to treat unmet medical needs. However, more recently there has been increasing competition from firms in countries such as China.

Some of the top global pharmaceutical companies by revenue in 2017 are as follows:

- Johnson & Johnson – $62.9bn revenue, based in the US. New J&J products launched over the past five years accounted for 22% of sales in 2017, and the company spent $10.6bn on R&D.
- Pfizer – $52bn, based in the US. Patents for several key products expired in some markets by 2017, which lead to some reduction in revenues in 2017. However, Pfizer announced the approval of a new treatment for leukaemia in the same year.
- Novartis – $49bn, based in Switzerland. Novartis reported an increase in revenues in 2017, supported by strong sales of its products.
- GlaxoSmithKline (GSK)– $40.7bn, based in the UK. GSK recorded revenue growth of 8% in 2017. Its pharmaceuticals division accounted for the majority of this revenue at $23.3bn. In December 2017, GSK received approval for a new treatment, which is expected to boost revenues in 2018.
- Merck & Co – $40.1bn, based in the US. Revenues grew by 1% in 2017, driven by the market launch of key drugs, and the company invested $7.3bn in R&D.

Q

1 Which of the following is an example of formal collusion? **(1 mark)**

(a) One firm puts up its prices and other firms copy and also put up their prices
(b) All firms agree to put up prices to a certain level
(c) One firm spends more on advertising but other firms in the market do not
(d) One firm puts up its prices to make supernormal profit and new firms enter the market

2 Explain two characteristics of oligopoly that could mean the market for pharmaceuticals is an oligopoly. **(4 marks)**

3 Analyse how Pfizer may benefit from its new treatment for leukaemia being protected by a patent. **(6 marks)**

4 Evaluate whether the largest US pharmaceutical companies would be likely to increase their profit if they colluded. **(20 marks)**

# 13 MONOPOLY AND MONOPSONY

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the assumptions of what makes a market a monopoly or monopsony
- Understand the costs and benefits of a monopoly and monopsony to firms, consumers and employees
- Understand the concept of 'natural monopoly' and its implications
- Understand the conditions necessary for third-degree price discrimination
- Understand the costs and benefits of price discrimination to firms and consumers
- Understand whether a firm in monopoly will be productively efficient, allocatively efficient and dynamically efficient

## GETTING STARTED

You started a small company five years ago in Germany. You invented a unique component for use in new cars that made the cars much more fuel-efficient. You produced and sold this component to major car manufacturers across Europe. When you started your business, you took out a patent that lasted for 18 years. Are you able to make supernormal profits? What will stop competitors entering this market?

## MONOPOLOY AND MONOPSONY

**Monopoly** and **monopsony** are situations where one firm dominates the market. In the case of monopoly, it is a single seller of a good or service, whereas for monopsony it is a single buyer of a good or service. In this chapter monopoly will be considered first and then monopsony.

## ASSUMPTIONS OF MONOPOLY

The assumptions for monopoly are that it has the following characteristics:

- there is only one firm in the industry – the **monopolist**
- barriers to entry prevent new firms from entering the market
- the monopolist is a short-run profit maximiser.

There are many industries in the world economy which possess most or all of these characteristics. In Cyprus, the Electricity Authority of Cyprus is an example of a near monopoly in the electricity industry as this is the dominant firm in the industry. In other countries there are similar monopolies in electricity, gas, communications, telecommunications, rail transport and water supply industries. In a **pure monopoly**, there is only one firm in the market. However, in many markets, there are a number of firms that have **monopoly power**. This occurs when a firm is able to control the price it charges for its product in a market.

## SOURCES OF MONOPOLY POWER

Monopolies acquire and maintain power over their markets for a variety of reasons.

**Barriers to entry and exit** Monopolists are protected from new entrants by barriers to entry and exit. These include legal barriers, sunk costs, capital costs, economies of scale, anti-competitive practices and marketing barriers including advertising. By keeping out new entrants, monopolists can control the market. The higher the barriers to entry, the stronger the power of the monopolist over its market. For example, Dyson took out patents on the designs of its products – these legal barriers prevent firms from copying Dyson and producing similar products. See Chapter 12 for more details about barriers to entry and exit.

**Product differentiation and the number of near competitors** Some monopolists sell products which are clearly differentiated from rival products. For example, households have to buy electricity from an electricity supplier. Gas, oil or batteries are very poor substitutes for electricity. Similarly, on the route between the Spanish cities of Madrid and Barcelona, the high-speed railway has a strong monopoly because airline flights and road transport are much more inconvenient and the overall journey time can be much longer. The higher the degree of product differentiation, the stronger the monopoly power. The less product differentiation there is, the larger the number of competitors the monopolist faces in practice. For example, Mars Foods has a

monopoly on the production of Mars chocolate bars, but the monopoly is very weak because a number of competitors produce similar products.

## ACTIVITY 1

SKILLS REASONING

### CASE STUDY: SINGLE SELLER?

1 How many electricity companies can you buy electricity from in your local area?
2 How many airlines fly directly from your nearest main city to New York, USA?
3 How do you think this affects the price charged for electricity and flights to New York?

## REVENUE CURVES

LINK Student Book 1, Chapter 7

A monopoly firm is itself the industry. As the industry faces a downward sloping demand curve, so does the monopolist. It can therefore only increase sales by reducing price, or increase price by reducing sales. It can set either price or output but not both, i.e. if it sets the price then the demand curve shows how many should be sold. If it sets the output then the demand curve shows what price it needs to charge to sell all that output.

The demand curve shows the quantity bought at any given price. For instance, a water company might sell two billion litres of water at 1c per litre. This price is the same as its average revenue; on average it will receive 1c per litre, so the downward sloping demand curve facing the firm is also the average revenue curve of the firm.

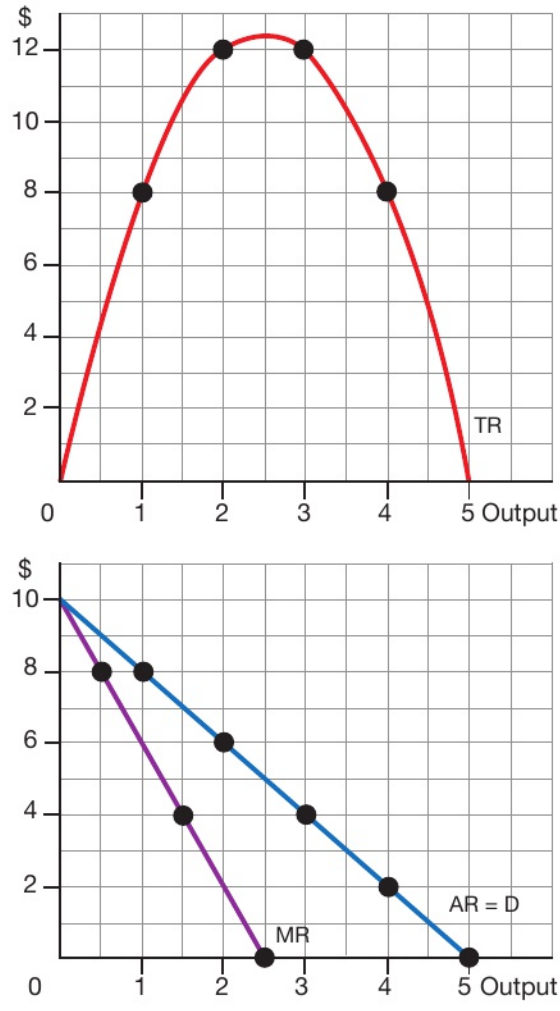
If average revenue is falling, marginal revenue must be falling too and at a faster rate. For example, assume a firm sells 10 units at $20 each. To sell an eleventh unit, it needs to lower its price, say to $19. Not only will it have to lower its price on the eleventh unit, but

| Quantity | Average revenue or price | Total revenue | Marginal revenue |
|---|---|---|---|
| | $ | $ | $ |
| 0 | 0 | 0 | |
| 1 | 8 | 8 | 8 |
| 2 | 6 | 12 | 4 |
| 3 | 4 | 12 | 0 |
| 4 | 2 | 8 | –4 |
| 5 | 0 | 0 | –8 |

▲ Table 1

**FIGURE 1**

**The revenue curves of a monopolist**
A monopolist, being the sole supplier in the industry, faces a downward sloping demand or average revenue curve. Marginal revenue falls at twice the rate of average revenue and becomes zero when total revenue is maximised.



it will also have to lower its price on the other 10 units. This is because it cannot charge a higher price to some consumers than others (although we will see later on in this chapter that this is possible in special circumstances). There is a loss of revenue not just of $1 on the sale of the eleventh unit but of a further $10 on the first 10 units. Total revenue increases from $200 ($20 × 10 units) to $209 ($19 × 11 units), so marginal revenue on the eleventh unit is $9 ($209 – $200) while the average revenue on selling 11 units is $19 ($209 ÷ 11) which is, of course, the price.

Table 1 gives a further example of falling marginal and average revenues. Note that the fall in marginal revenue is twice as large over any given change in quantity as the fall in average revenue. This is true of all straight line average revenue curves. Plotting these figures on a diagram gives Figure 1. The marginal revenue figures, as with all marginal figures, are plotted half way between 'whole' output figures, so the marginal revenue of the second unit is plotted half way between one and two units. It can be seen that at any given level of output, average revenue is twice marginal revenue. Total revenue is at a maximum when marginal revenue is zero. If marginal revenue (the addition to total revenue) becomes negative then total revenue will automatically fall. Total revenue is zero if average revenue, the price received per unit of output, is zero too.

## ACTIVITY 2

SKILLS PROBLEM-SOLVING, REASONING

### REVENUE CURVES

| Output (units per week) | Marginal revenue $ |
|---|---|
| 0 | 10 |
| 1 | 7 |
| 2 | 4 |
| 3 | 1 |
| 4 | –2 |
| 5 | |

▲ Table 2

1 Work out the (a) total revenue and (b) average revenue at output levels from 0 to 5 units.
2 (a) Draw the axes of a graph with revenue from $0 to $10 and output from 0 to 5. (b) Plot the marginal and average revenue curves. (c) Extend the average revenue curve to the output axis assuming that average revenue continues to fall at the same rate as in the table.
3 What is the value of marginal revenue when total revenue is at a maximum?

## PROFIT MAXIMISING EQUILIBRIUM OUTPUT

The neo-classical theory of the firm assumes that a monopolist will be a short-run profit maximiser. This means that it will produce where MC = MR.

Figure 2 adds the traditional U-shaped average and marginal cost curves to the average and marginal revenue curves outlined above.

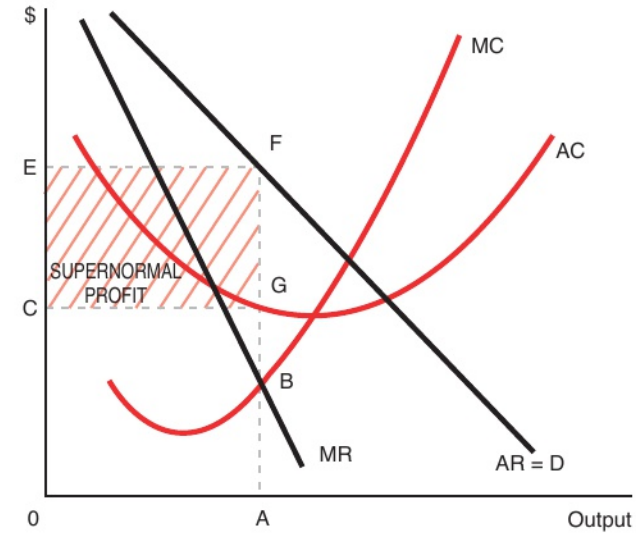
- The equilibrium profit maximising level of output is 0A where MC = MR.
- The price will be 0E. Buyers are prepared to pay 0E for this output. We know this because the average revenue curve is also the demand curve and the demand curve shows the maximum price buyers will pay for any given level of output.
- Supernormal profit of EFGC will be made. The supernormal profit per unit (GF) is the difference between the average revenue received (AF) and the average cost incurred (AG). 0A units are sold. Therefore total supernormal profit is 0A × FG, or the area EFGC.

Note that EFGC is supernormal profit because economic cost includes an allowance for normal profit. Note also that price is not equal to the intersection of the MC and MR curves (i.e. price is

### FIGURE 2

**Profit maximising output**

The monopolist will maximise profits by producing where MC = MR at 0A. It will base its prices on its average revenue curve, charging 0E. It will be able to earn supernormal profit of EFGC because average revenue is greater than average cost at this level of output.



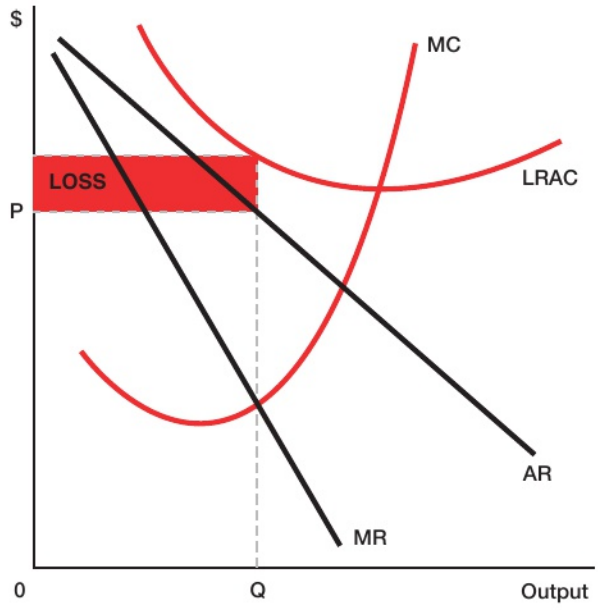
not AB). This is because the firm, although deciding on the level of output by the MC = MR condition, fixes its price based on the average revenue or demand curve. Also supernormal profit is not the area EF × FB (i.e. it is not the area between the average revenue curve and the marginal revenue and cost curves). Profit per unit is the difference between average revenue and average cost.

So far no distinction has been made between the short run and the long run. In the long run, as long as high barriers to entry remain and the demand curve does not fall significantly, the monopolist will earn supernormal profit.

However, as stated in Chapter 7, a firm will produce in the short run if total revenue is greater than total variable cost. In the short run, a monopolist may therefore operate at a loss but it will close down if it cannot cover its variable costs. In the long run, a monopolist will not operate if it cannot cover all costs of production. Such a situation is shown in Figure 3 where either costs have increased or demand has fallen. To maximise profits or minimise losses, it will produce where MC = MR, but at this level of output average cost is greater than average revenue. As the monopolist is the sole supplier in the industry, long-term losses will mean that no firm will supply and hence the industry will cease to exist.

**FIGURE 3**

**An industry where no firm will produce**
The figure shows an industry in the long run. Because LRAC is greater than AR, no firm will be prepared to operate and therefore no goods will be produced.




## NATURAL MONOPOLY

A **natural monopoly** occurs when the long-run average cost curve falls continuously, i.e. when there are continually gains to be made from economies of scale as output increases. This may mean that there is only room in the market for one firm if all the economies of scale are to be gained. If more than one firm tries to produce this output then the gains from economies of scale for each firm will be reduced and costs will be higher.

The implications of this are:

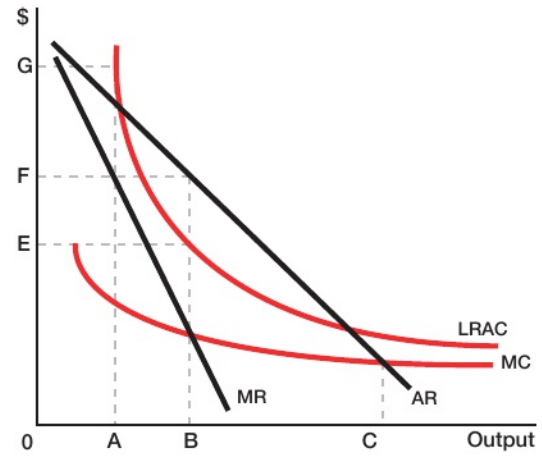
- one firm will tend to supply the whole market because if another firm tries to enter the market it will not be able to compete, as it will have higher costs than the existing firm
- prices may be lower if there is only one firm in the market and it passes on its cost savings. Prices would probably be higher if more than one firm supplied the market.

The main examples of industries that are natural monopolies are utilities such as gas supply, electricity supply, rail networks, telephone lines and internet cables.

A natural monopoly is shown in Figure 4. The monopolist will produce where MC = MR at output 0B and earn supernormal profit by pricing at 0F. However, making the industry more competitive would result in lower efficiency. Splitting the industry in two, for example, with each firm producing 0A (half of 0B), would increase the average cost of production from 0E

**FIGURE 4**

**Natural monopoly**
In a natural monopoly, economies of scale are so large that not even a single producer could fully exploit them. Competition would be highly inefficient, raising the average cost of production. The profit maximising level of output for the monopolist is 0B, but output would be greater at 0C where price = MC.



to 0G. More competition in the industry would result in a loss of productive efficiency, not a gain. Also, producing at the allocative efficient level of output where price = MC would result in a loss for the firm. At output 0C, average revenue is less than average cost. In the long run, a firm must at least make normal profit to stay in the industry. Hence in the long run, no firm in this industry would produce at the allocatively efficient level of production.

## COSTS AND BENEFITS OF MONOPOLY TO FIRMS

- A monopolist is likely to have high barriers to entry and can therefore earn supernormal profits in both the short run and the long run. Competition is kept out of the market and this makes the owners of the firm secure in the high dividends paid to shareholders.
- However, this may lead to X-inefficiency because of lack of competitive pressures: managers may not try to maximise profit, instead aiming to earn a satisfactory profit that is acceptable to shareholders. Monopolists could choose to revenue maximise or sales maximise because managers in the business gain greater rewards from this strategy than from profit maximising.
- The supernormal profit earned by a monopolist can be used for research and development. The costs of this may be too high for smaller firms in competitive markets.
- Monopolists can afford to invest in the latest technology and equipment to remain efficient and reduce the risk of competitors entering the market. The monopolist will have the resources from its supernormal profits to spend on research and development.
- The monopolist will also have an incentive to spend on innovation. It will be able to exploit any new products or new techniques of production to its own advantage, safe from competitors behind its high entry barriers. Productive efficiency will increase because costs will fall. Allocative efficiency will increase because the monopolist will bring new products to the market.
- A monopolist may reduce waste by avoiding supplying copies or substitutes for its products if it is operating in a natural monopoly. This keeps costs down and increases efficiency.
- The government may set a high level of tax on monopoly profits. This high taxation will not distort the market as it will only reduce supernormal profit; it will not cause the monopolist to leave the industry and therefore resources remain allocated to this industry.

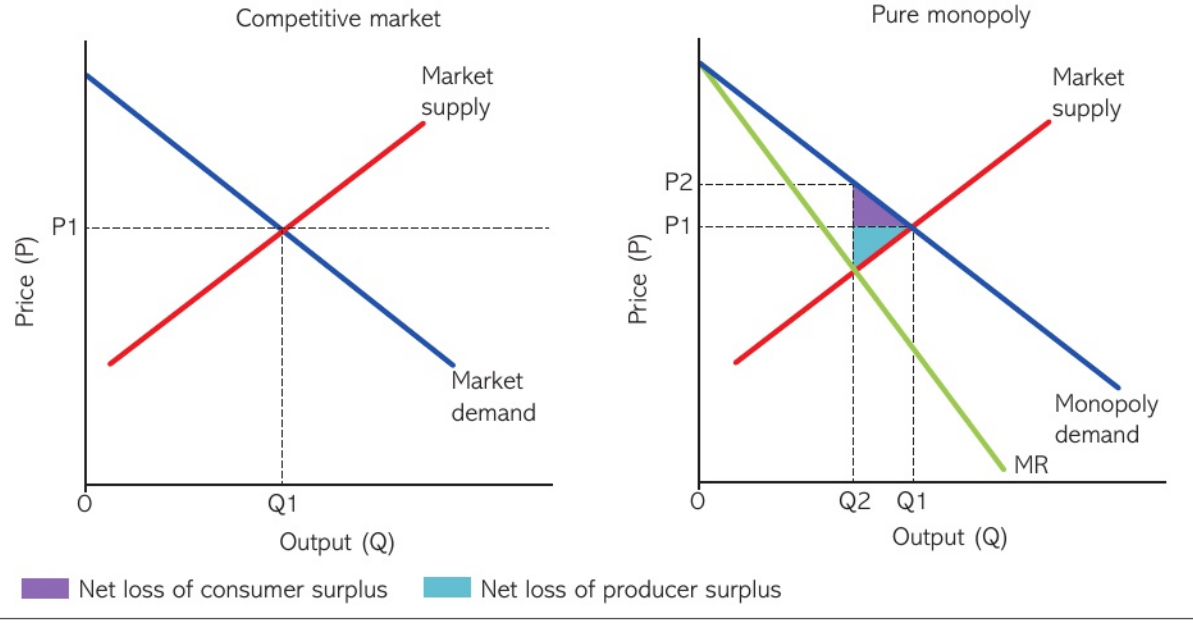
## COSTS AND BENEFITS OF MONOPOLY TO CONSUMERS

A monopolist, as a profit maximiser, is likely to set a price above that expected in a competitive market. The output sold will also be lower. The higher prices leads to a loss of consumer surplus and the product is under-consumed relative to the consumption in a competitive market.

This is shown in Figure 5. The price charged in a competitive market is where demand equals supply at a price of P1 and an output of Q1. However, a monopoly

**FIGURE 5**

The loss of the producer and consumer surplus is known as the deadweight welfare loss or social cost of monopoly



will produce at an output where MR = MC (assuming the MC is the supply curve). This leads to an output of Q2 and a price of P2 (where this output meets the demand curve). The output for a monopolist is therefore lower by the amount Q1 – Q2 and the price is higher by P1 to P2. There is a welfare loss as both consumer and producer surplus are lost, as shown by the shaded areas on the diagram. The welfare loss is the sum of the consumer and producer surplus.

LINK Student Book 1, Chapters 7 and 10

- There may be a poor level of service or the goods may be of poor quality as there is no incentive to improve due to little or no competition.
- However, if the monopolist firm is able to benefit from economies of scale its costs will be lower than in a competitive market. The lower average cost will enable the firm to charge a price below the price charged in a competitive market. The output will probably be at a higher level. Both the lower price and higher output will benefit the consumer.
- Even if the monopolist benefits from economies of scale, they have little incentive to control their costs and X-inefficiencies mean that there will be no real cost savings compared to a competitive market.
- The higher average cost from X-inefficiency means the firm is not making optimum use of scarce resources and is productively inefficient.
- There may be less incentive to invest in new ideas if the monopolist does not face competition in the market. This may lead to consumer goods and services being slow to innovate and improve.
- Some consumers could be better off if the monopolist price discriminates (as explained later in this chapter), as these consumers may benefit from lower prices. Other consumers, though, could be even worse off as they would be charged much higher prices.
- If the monopoly is a natural monopoly, consumers could benefit even if the monopolist maximises profits. Splitting the firm into two or more competing firms might produce such high marginal and average costs of production that prices are higher under competition than under a profit maximising monopolist. Whether or not consumers would be better off depends on the shape of the cost and revenue curves: how much supernormal profit will the profit maximising monopolist make compared with the cost of less efficient production in an industry with competing firms?

## PRICE DISCRIMINATION

Some buyers in the market will almost certainly be prepared to pay a higher price for a product than other buyers. For instance, a rail commuter is likely to be prepared to pay more for an early morning journey to get to work than a shopper who wants to get into town. A millionaire faced with the need for heart surgery is likely to pay more than a person on a low income with the same complaint. This can be illustrated on a monopoly diagram.

In Figure 6, the profit maximising output for a monopolist is assumed to be OH and OA is therefore the profit maximising price. OA represents the maximum price that the marginal consumer is prepared to pay. Other consumers are prepared to pay a higher price. If output was only OK, the marginal consumer would be prepared to pay OB. The area ACF represents the area of consumer surplus when price is OA: the difference between what consumers are prepared to pay in total for a good and what they actually pay.

LINK Student Book 1, Chapter 7

**Price discrimination** under monopoly is often split into three types. Third-degree price discrimination is the type of discrimination described above. First-degree price discrimination occurs when a firm is able to charge each customer a different price. That price is the maximum price the customer will pay. As a result, consumer surplus will be completely extracted by the monopolist and converted to producer surplus. Second-degree price discrimination is when a monopolist charges customers according to how much they buy. For example, an electricity company may charge a high price for the first 100 units consumed

### ACTIVITY 3

SKILLS REASONING

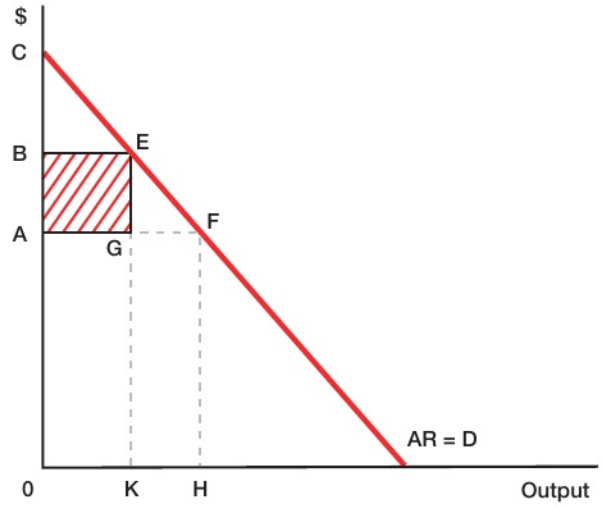
**CASE STUDY: TRADEMARKS**

Trademarks are an important way for businesses to defend their intellectual property. Trademarks such as Coca-Cola, Apple and Chanel are worth millions if not billions of dollars because of their associations with consumers. Defending trademarks is therefore very important to any company whose trademarks are recognisable to their customers. Several high-profile international businesses have successfully defended their trademarks from attempts to copy them by rival businesses. Among them is luxury fashion designer Giorgio Armani, which stopped the registration of the trademark 'Benjamin Armani' by a retailer of baby and child products such as pushchairs, high chairs and car seats.

1 Does a system of trademarks, where businesses are given monopoly rights to use a brand name, benefit firms and consumers?

**FIGURE 6**

**The gains of consumer surplus by the monopolist**
A monopolist can gain ABEG of consumer surplus from consumers by price discriminating, selling OK output to those consumers prepared to pay a minimum OB, and selling KH to other consumers only prepared to pay a minimum OA.




**EXAM HINT**

You only need to know about third-degree price discrimination for the international economics specification.

per quarter and a lower price for anything above that amount.

A monopolist may be able to split the market and price discriminate between different buyers. In Figure 6 the monopolist may be able to charge OB for OK of output, and then charge a lower price of OA for KH of output. In this way, the monopolist appropriates ABEG of consumer surplus when price is OB in the form of higher profit (i.e. higher producer surplus).

There are a number of different ways in which a monopolist may be able to discriminate:

- **Time** – it may charge a different price at different times of the day or week, as do the electricity distribution companies, rail companies, airlines at different times of the year.
- **Place** – it may vary price according to the location of the buyer. The same soft drinks can be purchased at different prices in different parts of the city, such as shopping malls or in shops in poor areas.
- **Income** – it may be able to split consumers into income groups, charging a high price to those with high incomes, and a low price to those with lower incomes. Examples of this can be found in medical practice and among lawyers. Hairdressers (who may be local monopolists) offering reduced rates to pensioners or children are likely to be price discriminating according to income too.

Three conditions must hold if a monopolist is to be able to price discriminate effectively:

- The monopolist must face different demand curves from separate groups of buyers (i.e. the elasticity of demand of buyers must differ). If all buyers have the same demand curve, the monopolist cannot charge different prices to buyers.
- The monopolist must be able to split the market into distinct groups of buyers, otherwise it will be unable to distinguish between those consumers prepared to pay a higher price and those prepared to pay a lower price.
- The monopolist must be able to keep the markets separate at relatively low cost. For instance, it must be able to prevent buyers in the high-price market from buying in the low-price market. For example, in some theme parks you are not allowed to bring in your own food and drinks. Equally, it must be able to prevent traders from buying in the low-price market and selling into the high-price market at a price which is lower than that of the monopolist.
- They should have sufficient monopoly power so that consumers who are charged the higher price do not switch to competitors.

Price discrimination can be analysed using the concepts of marginal cost and marginal revenue. Assume that the monopolist is able to divide its market into two, Market A and Market B. Without any price discrimination, the equilibrium marginal revenue is higher in Market A than in Market B. Further assume that the costs of production are identical in both markets. Given these assumptions, the firm could increase its total revenue from a given output by switching goods from B to A. Marginal revenue in Market B will now rise because it can charge a higher price if it sells less. Marginal revenue in Market A will fall because it has to lower the price to sell more. For instance, if marginal revenue was $10 in Market A when it was $6 in Market B, then the firm could gain an extra $4 of revenue by switching the marginal unit of production from Market B to Market A. It will carry on switching from Market B to Market A until there is no more advantage in doing so; this occurs when the marginal revenues are the same.

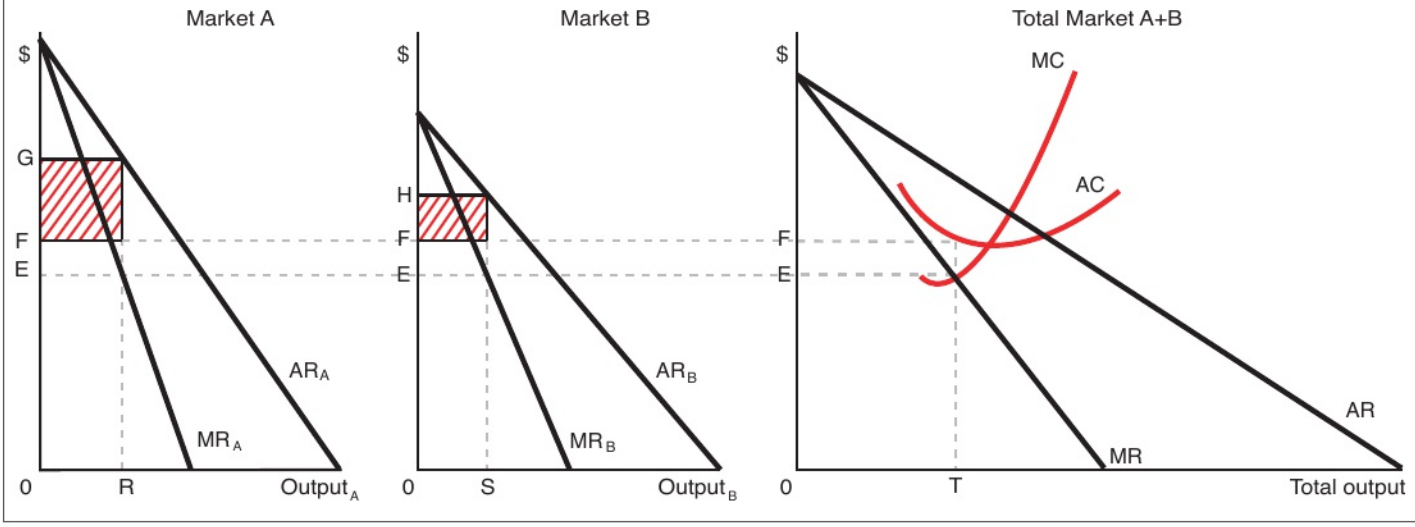
In Figure 7 the demand curves in Markets A and B are drawn first. From these demand or average revenue curves, the marginal revenue curve in each market can be calculated. The average and marginal

revenue curves for the total market can be calculated by summing horizontally the average and marginal revenue curves in each market. The profit maximising monopolist will produce where MC = MR across the whole market, at output level OT. This output (OT) is then split between the two markets (OR and OS) so that the marginal revenue is equal in both individual markets (OE). In each market, a firm's price will be based on the average revenue curve. A price of OG can be charged in Market A, and a price of OH can be charged in Market B. Average cost of production is OF and the supernormal profit earned in each market is

**FIGURE 7**

**Price discrimination**

By charging a different price in two markets, a monopolist is able to earn higher profits than it would if it charged the same price.




## ACTIVITY 4

SKILLS PROBLEM SOLVING, REASONING

### CASE STUDY: PRICE DISCRIMINATION

| Items | Ticket details | Regular (RMB) | Peak (RMB) |
|---|---|---|---|
| Pricing | **Regular admission**<br>Height above 1.4m – below 65 years old | 299 | 475 |
| | **Senior**<br>65 years old and above | 150 | 281 |
| | **Child**<br>Height above 1.0m to 1.4m (inclusive) | | |
| | **Disabled**<br>Certificate/proof of disability is required | | |
| | **Infant**<br>Height 1.0m and below | Free | |
| Pricing tiers | **Regular pricing dates include:**<br>Non-peak days<br>**Peak pricing dates include:**<br>Chinese New Year holiday period<br>Weekends<br>Summer holidays (July and August) | | |

▲ Table 3 A Chinese theme park pricing for 2018

Table 3 shows part of the price structure for a theme park in China.

**1** How do the theme park prices discriminate between customers as shown in Table 3?

**2** Using diagrams, outline why the theme park offers different prices to customers.

shown by the shaded areas on the diagram. This will be higher than the supernormal profit the firm would have made if it had not discriminated.

## COSTS AND BENEFITS FOR PRODUCERS AND CONSUMERS FROM PRICE DISCRIMINATION

**Firms** benefit from price discrimination because it increases their profits. They can appropriate as producer surplus some of what would otherwise be consumer surplus. Their costs of production may be higher because of price discrimination. But this is not important so long as their revenues are even higher.

**Consumers** are likely to lose out because many will pay higher prices. They will lose some of their consumer surplus to producers. Some customers will be winners from price discrimination and others losers. Take the example of a monopolist which, without price discrimination, would set a price of $10 per unit to maximise its profits. When price discriminating, it sets two prices, one $15 and the other $8. Customers who pay $15 lose out, but customers who pay only $8 gain. Some of these customers are ones who would otherwise have paid $10. Others are customers who would not have bought the product at all at a price of $10. Price discrimination not only results in cheaper prices for some customers but also expands the market.

## EFFICIENCY IN MONOPOLY

Profit maximising monopolists are neither productively nor allocatively efficient. They produce too little and charge too high a price. As a result, they are able to earn supernormal profit at the expense of customers. Consumer surplus is lower and producer surplus is higher than if the monopolist produced where price = MC, the allocatively efficient point of production.

Productive and allocative efficiency are affected if the monopolist is a natural monopolist, because it can potentially produce at a lower average cost than if the industry contained two or more competing firms. Hence the natural monopolist will be more productively efficient than firms in competition. There will also be no achievable allocatively efficient level of output in the long run because at the point where price = marginal cost, the monopolist will make a loss.

However, monopolists may or may not be more dynamically efficient than an industry where there are competing firms. If investment is higher leading to more innovation, there will be greater dynamic efficiency. However, the monopolist may choose not to invest more than is necessary to ensure short run profit maximisation. Instead, it may choose to reward its owners, for example by paying out high dividends to shareholders. In this case, monopoly leads to no greater dynamic efficiency than a competitive industry.

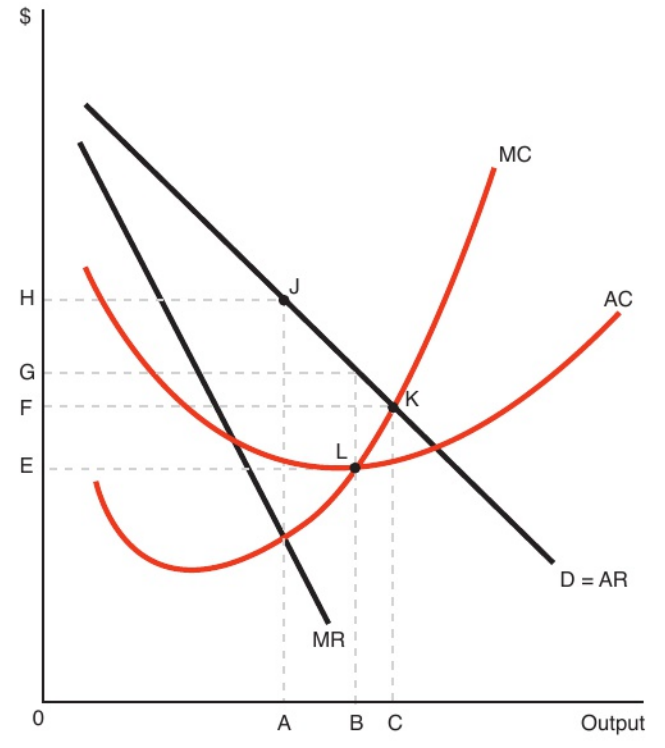
Consider Figure 8. The profit maximising monopolist will produce where MC = MR at output 0A. It will price on its demand curve or average revenue curve at 0H. Output at 0A is neither productively efficient nor allocatively efficient. Productive efficiency occurs at the point L, where average cost is at its lowest. Allocative efficiency occurs where price = marginal cost. This is at the point K where the marginal cost curve intersects the demand or average revenue curve. So the profit maximising level of output is below the productively efficient level of output at 0B and below the allocatively efficient level of output at 0C. The profit maximising price of 0H is above the allocatively efficient price of 0F and the productively efficient price of 0G.

The deadweight loss associated with production at

**FIGURE 8**

**Monopoly and efficiency**

A profit maximising monopolist will produce at output 0A. This is lower than the productively efficient level of output of 0B and also lower than the allocatively efficient level of output of 0C.



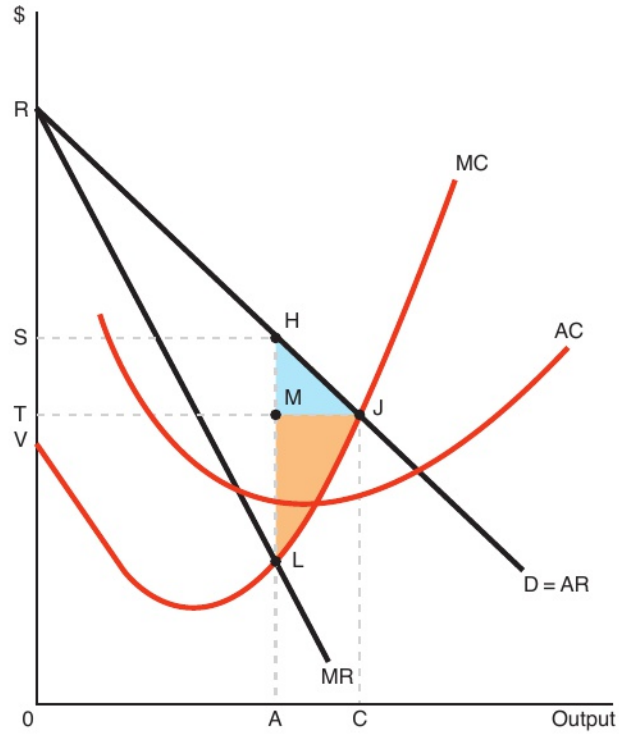
the profit maximising output of 0A and the allocatively efficient output of 0C is shown in Figure 9. The total deadweight loss is LHJ. This can be broken down into a loss of consumer and producer surplus.

LINK Student Book 1, Chapter 15

**FIGURE 9**

**Deadweight loss associated with monopoly**
Compared to the allocatively efficient point of production at J, there will be a deadweight loss of welfare of LHJ if a monopolist produces at 0A, the profit maximising level of output. Comparing output at 0C with 0A:

- consumer surplus falls by TSHJ
- producer surplus rises by TSHM – LMJ
- LMJ is a deadweight loss of producer surplus
- MHJ is a deadweight loss of consumer surplus.




- Consumer surplus would have been TRJ if output was at 0C, the allocatively efficient level of output. It now falls to SRH. So consumer surplus falls by TSHJ.
- Producer surplus would have been VTJL if output was at 0C, the allocatively efficient level of output. It now rises to VSHL. Note that the monopolist has gained TSHM of producer surplus, which would have been consumer surplus if output had been at 0C.

Total consumer and producer surplus at the allocatively efficient level of output 0C is therefore the area VRJL. At the profit maximising level of output, it falls to VRHL. The loss of consumer and producer surplus, the deadweight loss of welfare due to monopoly, is therefore the triangle LHJ. This deadweight loss of welfare is made up of a loss of consumer surplus of MHJ and producer surplus of LMJ. Why would the monopolist produce at 0A if it loses producer surplus of LMJ as a result? The answer is because it gains part of the surplus which consumers lost of TSHM and converts this into producer surplus. For the monopolist, the gain in producer surplus of TSHM outweighs the loss of producer surplus of LMJ.

## ASSUMPTION OF MONOPSONY

A monopsony exists when there is a dominant buyer in the market.

There are very few pure monopsonists but there can be a number of markets where one buyer dominates the market. This is often where the government is the main or only buyer in the market. For example, in China the government dominates the market for the purchase of rail track maintenance. The government also dominates the market for the hiring of teachers.

For a market to be monopsonistic, it also has to possess the same characteristics as a monopolistic market apart from the difference between buyers and sellers. So sellers in the market must not be able to sell their product to other firms outside the market. Monopsonists may have a variety of business objectives but in this chapter, it will be assumed that they are profit maximisers.

## CONDITIONS OF MONOPSONY

A pure monopsony exists when there is only one buyer in the market. This is relatively rare in practice. However, there are many more examples of firms that have monopsony power. This means that they are a large enough buyer in the market to be able to change the price at which they buy from suppliers.

The more a firm buys as a percentage of total sales in the market, the more monopsony power it is likely to have. For example, a firm that buys 60 per cent of all products in a market is likely to have greater monopsony power over the market than a firm which buys 20 per cent of all products. Equally, the more a firm buys from a single supplier, the greater its monopsony power. For example, if 100 per cent of Firm A sales are to Firm B, then Firm B is likely to have a high degree of monopsony power over Firm A.

When a firm has weak monopsony power over the market, suppliers are to some extent likely to be able to resist the demands of the monopsonist. Suppliers, for example, can sell to other firms if the monopsonist won't buy its products. However, the greater the monopsony power, the less able are suppliers to find other customers.

## COSTS AND BENEFITS OF MONOPSONY

There are a variety of potential costs and benefits of monopsony to firms, consumers and employees.

**The monopsonist** gains higher profits by being able to buy at lower prices. This reduces its costs of production and is likely to lead to an increase in overall output because of a shift downwards in its marginal cost curve. Note that while overall output is likely to increase, supply of inputs over which the firm has monopsony power will fall.

**Suppliers** are likely to lose out from a monopsony. Prices paid for their goods or services will fall. For example, farmers supplying a supermarket chain will see their prices fall, while workers supplying their services to a monopsony buyer of their labour will see their wages fall. Low prices will lead to less being supplied. In the case of farmers supplying a monopsonist supermarket chain, some farmers will switch out of producing one product and into another. Some farmers may be forced out of the market altogether.

To prevent a monopsonist from pulling out of the contract, suppliers will have to supply at low prices. This may force the suppliers to become more efficient; suppliers may try to source their raw material at low cost and try to minimise other costs.

Suppliers could benefit from longer-term contracts. Secure sales/stable incomes for a long time period could result in high revenues and profits.

**Customers** will possibly enjoy lower prices, as the lower costs for the monopsonist are passed on to customers. On the other hand, there may be restrictions in supply. The extent to which supply to customers will fall depends upon the price elasticity of supply in the market in which the monopsonist is the buyer. For example, if supply is highly price inelastic, there will be little fall in supply.

**Employees** The impact on employees is uncertain. For the monopsonist, its purchase costs will be lower compared to a competitive market. However, it will purchase less of the good. It is therefore unclear as to whether more, fewer or the same number of employees will be employed by the monopsonist. For the seller, they will sell less. Therefore, they will employ fewer workers.

## THINKING LIKE AN ECONOMIST

### PROBE OF UK SUPERMARKET DEAL 'MUST CONSIDER SUPPLIERS'

The food market is not a pure monopoly in the UK but individual supermarket chains have strong market power because they have significant market shares. The government has requested that the UK competition regulator, the Competition and Markets Authority (CMA), undertake an inquiry into Sainsbury's proposed takeover of Asda to look at the implications for supermarket suppliers. Sainsbury's is the UK's second largest supermarket chain; Asda is the third largest.

The CMA has started its initial investigation into Britain's biggest proposed supermarket merger for years. At present, Sainsbury's has a 15.8 per cent share of the market, while Asda has 15.6 per cent. Sainsbury's has offered £7.3bn to merge with its rival Asda, currently owned by Walmart of the US, and this would create a new UK market leader with about 31 per cent market share. The current largest UK supermarket chain is Tesco with about 27 per cent share of the market. A merger between Asda and Sainsbury's would increase concentration and give a new concentration ratio for the two largest companies at about 58 per cent market share. The CMA should take into account the possible impact on suppliers as well as competitors in the market. This merger will be important to suppliers because they will have one fewer customer to sell to. A combined Asda Sainsbury's would have greater monopsony power.

Also local market shares of these two supermarkets combined might be much higher than national market shares in some areas. Therefore if the merger goes ahead, the CMA is likely to ask Sainsbury's and Asda to sell off some of their stores, for example in areas where both brands already have outlets close to one another and dominate the local market.

## CHECKPOINT

1 List the three main assumptions for monopoly.
2 What is meant by barriers to entry and exit?
3 Draw a diagram to show the output that will lead to profit maximisation for a monopolist in the short run.
4 Why can a monopolist make supernormal profit in the long run?
5 What is the difference between monopoly and a natural monopoly?
6 Give two costs and two benefits of monopoly to firms.
7 Give two costs and two benefits of monopoly to consumers.
8 What conditions are necessary for price discrimination?
9 What are the costs and benefits of price discrimination to firms and consumers?
10 Is productive efficiency, allocative efficiency and dynamic efficiency achieved by monopoly?
11 What are the main assumptions of monopsony?
12 What are the costs and benefits of monopsony to firms, consumers and employees?

## SUBJECT VOCABULARY

**monopolist** a firm which controls all the output in a market

**monopoly or pure monopoly** market structure where one firm supplies all output in the market without facing competition because of high barriers to entry to the market

**monopoly power** exists when firms are able to control the price they charge for their product in a market

**monopsony** exists when there is only one buyer in the market

**natural monopoly** a monopoly that arises due to continuing falling economies of scale

**price discrimination** charging a different price for the same good or service in different markets

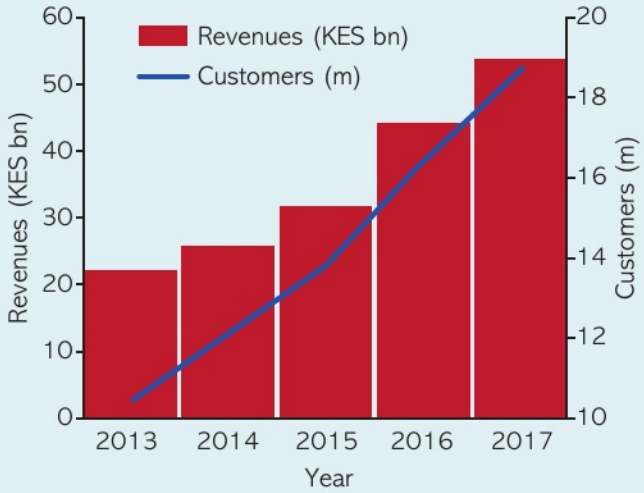
# EXAM PRACTICE

## SAFARICOM KENYA'S MAIN MOBILE PHONE OPERATOR

Safaricom is Kenya's dominant telecoms operator. It has a market share of 71 per cent of mobile phone users in Kenya. Safaricom set up Mpesa mobile money platform to allow customers to use mobile phones to access their bank accounts and to make payments. In 2018, there were 23.4 million users of Mpesa, which represents 80 per cent of the adult population in Kenya. This has increased each year as shown in Figure 10.

In the year to March 2017, Safaricom recorded a 27 per cent increase in profit to KES70.6 billion ($684.7m), helped by a 32 per cent growth in revenue from its Mpesa mobile money platform to KES55 billion.

Safaricom is also planning expansion across other African countries, into completely new markets for ecommerce and mobile payments. Safaricom would




▲ Figure 10 Safaricom's growing Mpesa mobile money platform

initially target its East African neighbours, but is also considering West Africa. There are no other large firms in this market at the moment and no large competitors are in ecommerce. Safaricom is planning to develop a version of ecommerce that will be like China's Alibaba and combine ecommerce and mobile payments. Safaricom wants to create a marketplace that connects businesses to consumers but also businesses to other businesses. Several ecommerce companies operate in Kenya but they are still very small: sales are estimated at under 1 per cent of mobile payments, according to the Communications Authority of Kenya.

Safaricom is making money from its huge volume of customer data, with information from its Mpesa users being offered to credit checking agencies.

However, Safaricom's expansion is still at risk from a report that is being prepared by the regulator, the Communications Authority of Kenya, into whether it used its dominant position unfairly.

Q

1 Which of the following is a characteristic of monopoly? **(1 mark)**
   (a) There are many firms in the market
   (b) There are no close substitutes for the product or service
   (c) There are low barriers to exit
   (d) There are no government regulations affecting the industry

2 Explain two possible barriers to entry in the telecoms market. **(4 marks)**

3 Examine whether Safaricom is likely to be beneficial for consumers. **(8 marks)**

4 Evaluate whether it is likely that Safaricom will earn supernormal profit in the future. **(20 marks)**

**EXAM HINT**

For Question 4, examine the potential reasons for the growth in Safaricom's revenue. Is this growth likely to continue in the future or continue at the same rate? Will consumers still be loyal to this telecoms company? Are competitors likely to enter this market for ecommerce? Conclude by assessing the extent to which Safaricom can maintain its dominant market position. What other changes might reduce its ability to keep its dominant position in the future?

# 14 CONTESTABILITY

UNIT 3
3.3.3

## LEARNING OBJECTIVES

- Understand the assumptions of what makes a market contestable
- Understand the implications of contestable markets for the behaviour of firms on profitability and pricing decisions
- Understand the costs and benefits of contestability for firms and consumers
- Understand the significance of sunk costs for contestability

## GETTING STARTED

How easy is it to set up a coffee shop? How easy is it to set up as a car manufacturer? How much of your initial investment might you get back if you closed the coffee shop you had opened? Would that differ from a car manufacturer closing?

## CONTESTABLE MARKET THEORY VS NEO-CLASSICAL THEORY

Many, if not most, markets in industrialised economies are dominated by a few producers. The neo-classical theory of oligopoly assumes that oligopolistic markets feature high barriers to entry. However, there is also evidence to suggest that many oligopolistic markets have low barriers to entry. Therefore, firms in the industry are likely to behave in a different way from that predicted by neo-classical theory. The theory of **contestable markets** explores the implications of low barriers to entry and exit in markets.

## CHARACTERISTICS OF CONTESTABLE MARKETS

The theory of contestable markets has a number of characteristics.

- The number of firms in the industry may vary from one (a monopolist) having complete control of the market, to many, with no single firm having a significant share of the market.
- In a contestable market, there is freedom of entry to and exit from the market. This means there will be no **sunk costs**. This is a significant characteristic of the model. Its implications are discussed below.
- Firms compete with each other and do not collude to fix prices.
- Firms are short-run profit maximisers, producing where MC = MR.
- Firms may produce homogeneous goods or they may produce branded goods.
- There is perfect knowledge in the industry.
- The potential for **hit-and-run competition** exists.

## PROFITABILITY

The theory of contestable markets shows that in a contestable market:

- supernormal profits can be earned in the short run
- only normal profit can be earned in the long run.

Assume that firms in a contestable market are making supernormal profit in the short run. New firms will be attracted into the industry by the supernormal profit. Supply will increase and prices will be driven down to the point where only normal profit is being made. This is the same argument that is used in the theory of perfect competition. Equally, if a firm is making losses,

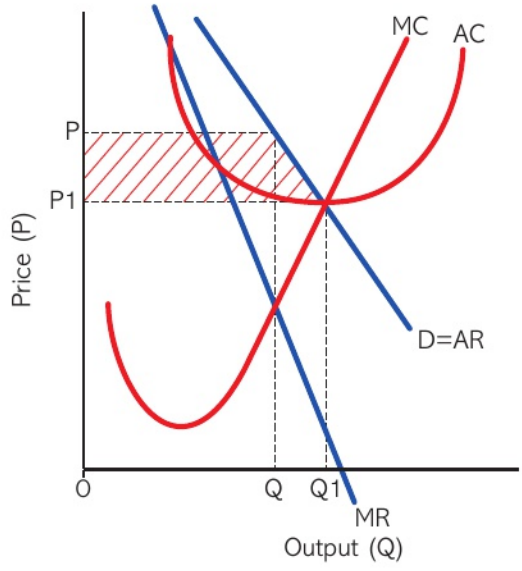
it will eventually leave the industry because in the long run it cannot operate as a loss-making firm.

This also applies if it is assumed that a monopolist is the established firm in an industry. If it charges prices which will lead to it earning supernormal profit, then another firm may enter the industry charging lower prices. The new entrant will remain so long as the existing firm is earning supernormal profit, taking market share away from it and reducing its overall profits. The monopolist will have to lower its prices to force out the new entrant. However, if the monopolist puts up its prices again after the new entrant has left, all that will happen is that another firm will enter the industry. The only way to prevent this hit-and-run competition is for the existing firm to price at a level where it only earns normal profit.

Hence, the ability of firms to earn supernormal profit is dependent on the barriers to entry and exit to the industry, not on the number of firms in the industry, as neo-classical theory would imply. With low barriers, existing firms will price such that AR = AC (i.e. no supernormal profits are being earned) because they are afraid that otherwise hit-and-run entrants to the industry will come in and damage the market for them. They are also afraid that new entrants may stay on a permanent basis, reducing the market share of existing firms in the industry. This is shown in Figure 1.

**FIGURE 1**

The output and price in a profit maximising monopoly would be P and Q with a supernormal profit shown as the shaded area. A firm in a contestable market would keep prices lower at P1 and output at Q1, leading to only normal profit being earned in the long run.




## PRICING DECISIONS

Firms in a contestable market may choose to set lower prices than they would charge if they maximised their short-run profits, as shown in Figure 1. They do this to keep out new entrants when there are low barriers to entry and exit. If they only earn normal profit, new firms will not be attracted into the industry. Firms in contestable markets often use this strategy, which is known as limit pricing (see Chapter 12). If new firms did enter the industry, this could lead to existing firms losing their supernormal profits anyway. They would also lose sales and so their normal profit would be lower. Limit pricing can be seen as a barrier to entry because it deters new entrants from entering the industry.

## ENTRY TO AND EXIT FROM THE INDUSTRY

The ability of firms to enter and leave the industry is crucial in a contestable market and is not necessarily linked to the number of firms in the industry as in neo-classical theories of the firm. In neo-classical theory, low barriers to entry are linked with a large number of firms in an industry (perfect competition and monopolistic competition) while high barriers are linked with few firms in the industry (oligopoly or monopoly). Perfectly competitive and monopolistically competitive industries are contestable because both these models assume there are low barriers to entry. But what of oligopolies and monopolies?

Some barriers to entry are natural. For instance, the industry may be a natural monopoly, as in rail network or electricity supply. Alternatively, there may be very high capital entry costs to the industry, as in car manufacturing. Neo-classical theory would predict that firms in these industries would earn supernormal profits. Contestable market theory suggests that this depends to a large extent on the costs of exit from the industry. These exit costs are called sunk costs.

## SIGNIFICANCE OF SUNK COSTS

How sunk costs affect firms can vary. For example, a woman may set up a gardening business, buying a van and garden tools and paying for advertising. If the business ceases to trade, she will be able to get some money back by selling the van and the tools, but she will not be able to recover any of the money from the advertising. The cost of advertising and the difference between the purchase price and resale price of the capital equipment (the van and tools) are her sunk costs; these sunk costs are likely to be low. Low sunk costs will encourage firms to enter an industry because they have little to lose from failure.

## ACTIVITY 1

SKILLS REASONING

### CASE STUDY: IDENTIFYING A CONTESTABLE MARKET

To what extent do (a) clothing manufacturers and (b) clothing retailers operate in contestable markets?

Another example would be a natural monopolist charging high prices and earning supernormal profit. A competitor then enters the industry and takes market share by charging lower prices. The natural monopolist reacts by cutting prices and the competitor leaves the industry, unable to compete on these new lower prices because its costs are too high. So long as the cost of leaving the industry is small, it still makes sense for the competitor to have earned profit in the short run by entering the industry. The costs of exit are the sunk costs of operating in the industry (i.e. the fixed costs of production which cannot be recovered if the firm leaves the industry). If the sunk costs are low (for instance the firm has done little advertising and capital equipment has been leased on a short-term basis) then the firm has lost little by entering and then leaving the industry – exit barriers are low. However, in the meantime, it has earned profit at the expense of the existing firm in the industry.

## ACTIVITY 2

SKILLS REASONING

### CASE STUDY: ENTRY INTO AN INDUSTRY

1 Which of the following would make it more likely or less likely that there would be potential entrants to an industry?
   (a) The inability of firms in the industry to lease capital equipment for short periods of time
   (b) Very high second-hand prices for capital equipment
   (c) Extensive advertising by existing firms in the industry
   (d) The existence of a natural monopolist that was highly inefficient and had high costs of production
   (e) Patents held by an existing firm in the industry that were crucial to the manufacture of the product
   (f) Government legislation that gave monopoly rights to a single producer in the industry

## COSTS AND BENEFITS OF CONTESTABILITY TO FIRMS

- Contestable markets may make it easier for firms to exist in the market without new firms entering the market and increasing competition. However, this is often as a result of the behaviour of these firms to deter new entrants.
- It is easy for new firms to enter the market and start to compete with existing firms in the market. This may be a benefit or disadvantage to a firm depending on whether this is from the point of view of the new entrant or the existing firm.
- Firms will only earn normal profit in the long run and possibly in the short run as well. This will reduce the amount of retained profit available for research and development, but losses may be less likely as there may be more stability in the market.
- Firms will have to keep costs down in order to remain competitive and therefore reduce or eliminate X-inefficiency.
- Firms may use limit pricing to deter new entrants and therefore only earn normal profit.
- Firms in strongly contestable markets with low barriers to entry and exit are also likely to be productively and allocatively efficient.

## COSTS AND BENEFITS OF CONTESTABILITY TO CONSUMERS

- Prices will tend to be lower and nearer to the prices in a competitive market due to the threat of new entrants into the market. If a firm in a contestable market was not operating at the bottom of its average cost curve, a new entrant would be able to establish itself, producing at the bottom of its average cost curve. It could then price at this level, below the price of the existing firms within the market. Hence, in the long run, firms in a contestable market must be productively efficient and set a lower price than if the market was not contestable.
- If large firms dominate a contestable market, economies of scale could still be achieved, keeping average costs low. Remember contestability is about the ease of entry into and exit from the industry

and therefore the behaviour of these firms rather than the number of firms there are in the industry. This may lead to lower prices being charged, which benefits consumers and increases consumer surplus.

- There are increased incentives for firms to respond to consumer preferences. Firms are likely to be allocatively efficient. Firms in a contestable market can only earn normal profit in the long run. Hence average revenue must equal average cost (AR = AC). If firms are producing at the bottom of their average cost curve, then marginal cost must equal average cost (MC = AC). This is because the marginal cost curve cuts the average cost curve at its lowest point. Hence, since equilibrium output will be where AR = AC and where MC = AC, it must be true that firms produce where AR (which is price) = MC. This is the condition for allocative efficiency (see Figure 1).
- However, if there are fewer firms in the market consumer choice may be limited.
- There may be less innovation as the possible benefits for firms may be reduced, deterring these firms from entering into the market and leading to fewer new products being developed.

## DEGREES OF CONTESTABILITY

It can be argued that no market is perfectly contestable. There are always some barriers to entry and exit which may deter hit-and-run competitors, for example. However, some markets are more contestable than others. The lower the barriers to entry and exit, the more contestable a market is likely to be. Hence, there are degrees of contestability across markets. In reality some markets are highly contestable, others are only weakly contestable, especially where sunk costs are high. Markets where there is a need for specialist equipment and a high level of technical knowledge is required to enter the industry will have high barriers to entry. Patents on products are another way firms can erect barriers to entry to prevent new entrants and hence make the market less contestable.

# THINKING LIKE AN ECONOMIST

## THE AIR PASSENGER MARKET

The air passenger market is often given as an example of a contestable market. There are relatively few companies flying on particular routes and, up until the 1990s, airlines tended to charge high prices. Those that were well run were able to make supernormal profit. Many, though, were poorly run, with very high costs; some were owned by governments, more concerned with national prestige than losses.

In the 1990s, deregulation and privatisation in Europe led to the growth of low-cost airlines, which took significant market share from more established airlines on shorter routes. Many of these low-cost, budget airlines disappeared within a few years because they were not able to make a profit.

One of the key factors for the contestability of the air passenger market is the ability of airlines to hire both staff and equipment. A new entrant can hire an aircraft for a short period of time – such as six months – and, if necessary, on a flight-by-flight basis. Cabin crew and airport staff can be hired from companies specialising in providing services to airlines. Landing and take-off slots can be negotiated from most airports on a short-term basis. The sunk costs are therefore relatively low. Internet price comparison sites also make it easy for price-conscious travellers to see the lowest-cost flight, making it relatively easy for new entrants to sell tickets.

There are a number of factors which make the air passenger market less than perfectly contestable. For example, aviation laws prevent foreign companies from flying to and from many destinations in the world. In Spain, Barcelona's main airport may make it difficult for new entrants to gain landing and take-off slots. This may be one of the reasons why companies like Ryanair fly to Gerona airport, which is further from the city than the main international airport for Barcelona.

Overall, though, what could be an oligopolistic market with firms making supernormal profits is instead a contestable market where keen price competition allows firms to earn only normal profits.

## CHECKPOINT

1 What are the characteristics that make a market contestable?
2 How does the market being contestable affect the profits earned by firms?
3 How does the market being contestable affect the pricing decisions made by firms?
4 What is meant by sunk costs?
5 What is the importance of sunk costs to the behaviour of firms?
6 What are the benefits to consumers of a market being more contestable?
7 Why might a contestable market not be beneficial to firms operating in that market?
8 Why can a contestable market have just a few firms or many firms operating in it?
9 Give two examples of how a market may become less contestable.
10 Why might governments want markets to become more contestable?

## SUBJECT VOCABULARY

**contestable market** a market where there is freedom of entry to the industry and where costs of exit are low

**hit-and-run competition** when firms can enter a market at low cost attracted by high profits and then leave the market at low cost when profits fall

**sunk costs** costs which cannot be recovered when a firm leaves an industry

# EXAM PRACTICE

## TAXI METERS TO BE COMPULSORY IN SRI LANKA

Taxi services are available in most countries around the world. They take passengers from one place to another for a price. However, this price can vary and may be negotiated before the journey takes place or at the end of the journey. The price can be determined by the use of a meter or by the price the taxi driver chooses to charge.

Sole traders, partnerships or even companies can offer taxi services. Large firms are not often found in the taxi service business. To operate a taxi service a licence or some sort of legal authorisation is usually required and a fee is usually charged for the licence. This can be high in some countries.

In Sri Lanka, there are taxi services using cars and minibuses but there are also 750,000 three-wheeled vehicles. Vehicles can be purchased, sometimes with the use of a loan from family or a bank, and can be sold if no longer required but at a lower price due to depreciation. Meters that can print bills are being made compulsory in Sri Lanka. The National Council for Road Safety (NCRF) said all three-wheeled taxis should have meters by April 2018. It said taxi drivers should issue printed bills to passengers indicating the distance, fare and taxi details. A six-month period had been given for the owners of three-wheeled taxis to install the meters.

'The maximum cost for a meter should be less than Rs.10,000 and the meters should be provided to three-wheeler drivers under several instalments, if they couldn't pay the full amount upfront,' said NCRF Chairman Dr Sisira Kodagoda. He said the law was not to exploit drivers of three-wheeled taxis but to regulate their service.

Source: Taxi meters compulsory from today, © 2018, Used with permission from Wijeya Newspapers Ltd

Q

1 Which one of the following statements is true about a contestable market? **(1 mark)**
(a) There are always many buyers and sellers
(b) There are high barriers to entry
(c) Firms earn supernormal profit in the long run
(d) Sunk costs are low

2 Explain two characteristics that may make taxi services a contestable market. **(4 marks)**

3 Analyse the possible barriers to entry and exit in the taxi service market. **(6 marks)**

4 Discuss whether taxi businesses in Sri Lanka are likely to earn supernormal profit. **(14 marks)**

### EXAM HINT

For Question 4, discuss the theory of contestable markets. To what extent is the taxi service business in Sri Lanka a contestable market? What is likely to happen if a taxi business is earning supernormal profit in the short run and in the long run?

# LABOUR MARKETS

This section looks at the market for labour. Factors affecting demand for labour and its elasticity form the first part of the section and supply of labour and its elasticity follow on. Demand and supply of labour curves are then combined to determine the wage rate paid for labour. Reasons for changes in the wage rate are considered, including shifts in the demand or supply curves as well as differences in wage determination in competitive and non-competitive markets. Finally, the section considers why labour markets might fail and the implications of such failure.

# 15 THE DEMAND FOR LABOUR

UNIT 3
3.3.4

## LEARNING OBJECTIVES

- Understand that the demand for the final product influences the demand for labour to a particular occupation
- Understand that productivity of labour influences the demand for labour to a particular occupation
- Understand that the price of the product influences the demand for labour to a particular occupation
- Understand that the wage relative to the price of capital influences the demand for labour to a particular occupation
- Understand the factors that influence the elasticity of demand for labour

## GETTING STARTED

Vihaan owns and runs a village café and coffee shop. His business is very successful, but there are times of the day when he knows that customers feel annoyed that they are having to wait too long to be served. He is considering employing another person at a cost of $400 per week to work for 40 hours per week, in addition to the six staff he already employs. From a financial viewpoint, how would Vihaan calculate whether to take on the extra employee if he was a profit maximiser?

## THE DOWNWARD SLOPING DEMAND FOR LABOUR CURVE

LINK Student Book 1, Chapter 7

Demand for labour is a **derived demand**, which means that the demand for labour is a result of the demand for the goods or services that the workers produce. For example, if there is an increase in demand for wooden furniture then the demand for workers to make this furniture will also increase so that firms can meet this demand. However, if the demand for plastic chairs goes down then firms making plastic chairs will not sell as many chairs and will need to reduce production. Therefore these firms will require fewer workers. Firms need workers to produce goods and services to meet the demand for these goods; without a demand for the goods there will not be a demand for the workers to make them. The demand curve for labour shows how many workers will be hired at any given wage rate over a particular time period. For instance, a firm might want to hire 100 workers if the wage rate is $2 per hour but only 50 workers if it is $200 per hour.

## THE SHORT-RUN DEMAND FOR LABOUR

In the short run, at least one of the factors of production is fixed. Assume that all factors are fixed except labour. The law of diminishing returns (see Chapter 5) states that marginal output will start to decline if more and more units of one variable factor of production are combined with a given quantity of fixed factors. One common example is to imagine a plot of land with a fixed number of tools where extra workers are employed to cultivate the land. Diminishing returns will quickly set in and the eleventh worker, for instance, on a 5000 $m^2$ plot of land will contribute less to the total output than the tenth worker.

Labour is assumed to be a variable factor of production, while all other factors are fixed. As extra workers are employed, total output, or total physical product, increases. However, **marginal physical product**, the number of extra units of output a worker produces, starts to decline after the employment of the second worker. So diminishing marginal returns set in with the third worker. Assume that the firm is in a perfectly competitive industry and therefore faces a horizontal, perfectly elastic demand curve. This means that the firm can sell any quantity of its product at the same price per unit. In Table 1, it is assumed that the price of the product is $10. **Marginal revenue product** can then be calculated – this is the addition to revenue from the employment of an extra worker. For instance, the first worker produces eight units and so, at a price per product unit of $10, the marginal revenue product is $80 ($10 × 8). The marginal

| Per week | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Labour input | Total output | Marginal physical product | Price of product | Marginal revenue product (column 3 × column 4) | Wage rate per worker | Contribution (column 5 – column 6) |
| (workers) | (units) | (units) | $ | $ | $ | $ |
| 1 | 8 | 8 | 10 | 80 | 70 | 10 |
| 2 | 17 | 9 | 10 | 90 | 70 | 20 |
| 3 | 25 | 8 | 10 | 80 | 70 | 10 |
| 4 | 32 | 7 | 10 | 70 | 70 | 0 |
| 5 | 38 | 6 | 10 | 60 | 70 | –10 |
| 6 | 43 | 5 | 10 | 50 | 70 | –20 |

▲ Table 1

revenue product of the second worker is $90 ($10 × the marginal physical product).

It is now possible to calculate how many workers a firm will employ. The contribution to the payment of fixed costs and the earning of profit of each worker is the difference between the marginal revenue product of the firm and the cost to the firm of the worker. Assume that the firm is able to employ any number of workers at a wage rate of $70. The contribution of the first worker is $10, the worker's marginal revenue product minus the worker's wage ($80 – $70). The contribution of the second worker is $20 ($90 – $70). It can be seen from Table 1 that the first three workers each make a positive contribution. The fourth worker neither increases nor decreases total profit for the firm. The firm would definitely not employ a fifth worker because that employment would result in a loss of $10 to the firm. The worker's wage of $70 would exceed the worker's marginal revenue product of $60. So marginal revenue product theory suggests that the firm will employ a maximum of four workers because this number maximises total profit (or minimises the loss) for the firm.

## ACTIVITY 1

SKILLS PROBLEM-SOLVING, REASONING

### CASE STUDY: CALCULATING TOTAL REVENUE PRODUCT AND MARGINAL REVENUE PRODUCT

| Number of workers employed | Total physical product per week | Total revenue product (TRP) $ | Marginal revenue product (MRP) $ |
|---|---|---|---|
| 1 | 10 | | |
| 2 | 24 | | |
| 3 | 36 | | |
| 4 | 44 | | |
| 5 | 50 | | |
| 6 | 53 | | |

▲ Table 2

Table 2 shows the **total physical product** per week for a small firm as the number of workers employed varies. The price of the product sold is $10 per unit.

1 Find total revenue product at each level of employment.
2 Find marginal revenue product as employment increases.
3 How many workers should the firm employ if the weekly wage per worker is: (a) $60; (b) $30; (c) $120; (d) $100?

## ACTIVITY 2

SKILLS PROBLEM-SOLVING, REASONING

### CASE STUDY: CALCULATING TOTAL REVENUE PRODUCT AND MARGINAL REVENUE PRODUCT

| Number of workers employed | Number of units produced and sold per week | Price per unit $ | TRP $ | MRP $ |
|---|---|---|---|---|
| 1 | 10 | 15 | | |
| 2 | 24 | 14 | | |
| 3 | 36 | 12 | | |
| 4 | 44 | 11 | | |
| 5 | 50 | 10 | | |
| 6 | 53 | 9 | | |

▲ Table 3

The firm in Table 3 produces in an imperfectly competitive market. As output increases, the price falls.

1 Complete the table by working out the TRP and MRP of labour as employment increases.
2 How many workers would the firm employ if the weekly wage was: (a) $20; (b) $40; (c) $60; (d) $80; (e) $100; (f) $120?

If the wage rate were to fall to $50, the firm would employ more workers. The fourth worker would now definitely be employed because the contribution would be $20. The fifth worker too would contribute a positive $10. The firm might employ a sixth worker although the contribution is zero. Marginal revenue product theory therefore suggests that the lower the wage, the more workers will be employed.

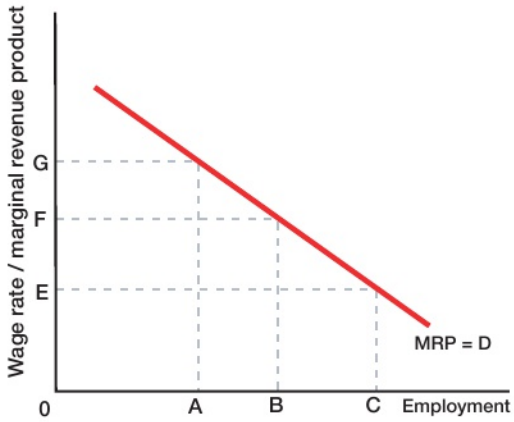
## THE DEMAND CURVE FOR LABOUR

Figure 1 shows a firm's marginal revenue product curve for labour. It is a downward sloping or negative relationship because marginal revenue product declines as output increases (as shown in Table 1). It is conventional to ignore the upward sloping part of the line at low levels of output. If the wage rate is OF, the firm will employ OB units of labour. If the wage rate rises to OG, the firm will reduce employment to OA. If, on the other hand, wage rates fall to OE, the firm will take on extra workers and increase the labour force to OC. The marginal revenue product curve therefore shows the number of workers the firm will employ at any given wage rate. Note that this is the definition of the firm's demand curve for labour. Therefore, the marginal revenue product curve is also the firm's demand curve for labour.

This is true for all factors of production. Figure 1 shows the familiar price/quantity diagram. The price of labour is the wage rate. Quantity is the quantity of labour employed. The downward sloping marginal revenue product curve gives us the familiar downward sloping demand curve.

**FIGURE 1**

**The MRP curve is the demand curve for a factor**
The MRP curve shows the maximum price a firm will be prepared to pay for an extra unit of a factor of production and therefore it is the demand curve for that factor.




## SHIFTS IN THE DEMAND CURVE FOR LABOUR

The demand curve for labour can shift to the left or right if the marginal revenue product of a given quantity of labour changes. There are two main reasons why marginal revenue product may change given that marginal revenue product equals marginal physical product multiplied by the price of the product:

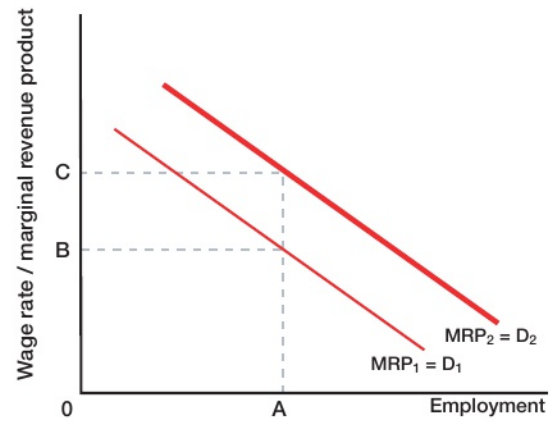
**The productivity of labour** The physical productivity (physical output per worker) of labour may change. If car workers increase their output from four cars per day to five cars per day, their marginal physical product will increase and hence so too will their marginal revenue product. Employers will be prepared to pay more to workers who are more productive.

**The price of the product** If the demand for a product increases, then the market price of the good or service produced may change. If the market price of a car increases from $5000 to $10,000, the marginal revenue product will double. Car manufacturers will then be prepared to pay more for labour.

An increase in labour productivity (output per worker) or an increase in the price of the product made will increase the demand for labour, shifting the demand curve to the right. However, a fall in labour productivity or a fall in the price of the product will reduce the demand for labour, shifting the demand curve to the left. In Figure 2, the demand curve has shifted to the right. For any given quantity of labour, the marginal revenue product of labour has increased. So, for example, if OA labour was employed, its MRP before the MRP increase was OB. Now it is OC and so the demand curve has shifted from $D_1$ to $D_2$.

**FIGURE 2**

**A rise in the demand for labour**
A rise in the marginal productivity of labour at any given level of employment will lead to a shift of the MRP or demand curve for labour to the right.



## WAGE RATE RELATIVE TO THE PRICE OF CAPITAL

Economic theory suggests that the higher the price of labour, the less labour firms will hire.

- In the long run, other things remaining equal, firms can vary all factors of production. The higher the wage rate, the more likely it is that firms will substitute machines for workers and hence the lower the demand for labour.
- In the short run, firms are likely to have an existing stock of capital. They will have to produce with a given amount of factory or office space and with a fixed amount of plant, machinery and equipment. The more workers that are added to this fixed stock of capital, the less likely it is that the last worker employed will be as productive as existing employees. Hence the wage rate would have to fall to encourage the employer to take on an extra worker.

So the demand curve for labour is likely to be downward sloping both in the long run and the short run. A change in the wage rate relative to the price of capital may shift the demand curve for labour. For example, if the wage rate rises relative to the price of capital then the demand for labour will fall as firms replace labour with capital.

## THE LONG-RUN DEMAND FOR LABOUR

In the long run, all factors of production are variable. A firm has complete freedom to choose its production techniques. In the developing world, where labour is cheap relative to capital, firms tend to choose labour intensive methods of production. In the developed world, labour is relatively expensive and hence more capital intensive techniques of production are chosen. So in agriculture in the developed world, far more use is made of tractors and other machinery, while in the developing world, far more workers are employed for each square kilometre of land farmed.

## PERFECT AND IMPERFECT COMPETITION

So far it has been assumed that the employer is supplying goods in a perfectly competitive market. This is because it has been assumed that the firm can supply any quantity of goods to the market at the same price per unit (i.e. the firm faces a horizontal demand curve). The marginal revenue product curve falls because of diminishing returns.

However, if the employer supplies goods in an imperfectly competitive market, then it faces a downward sloping demand curve for its product. If it expands output, price per unit sold will fall. Consider Table 1 again. The fall in marginal revenue product would be even greater than that shown if the price of the product did not remain at $10 per unit, but fell as output expanded. So the marginal revenue product curve for an imperfectly competitive firm falls not only because of diminishing returns but also because the price or average revenue of the product sold falls as output expands.

Whether the firm is perfectly or imperfectly competitive, it is still true that the demand curve for labour is the marginal revenue product curve of labour.

## FACTORS THAT INFLUENCE THE ELASTICITY OF DEMAND FOR LABOUR

The **elasticity of demand for labour** is a measure of the responsiveness of the quantity demanded of labour to changes in the price of labour (i.e. the wage rate).

$$\text{elasticity of demand for labour} = \frac{\text{percentage change in quantity of labour demanded}}{\text{percentage change in the wage rate}}$$

Remember that the relationship is negative (as one figure rises the other will fall and vice versa) because the demand curve is downward sloping.

For example, if elasticity of demand for labour is 2 and wage rates increase by 10% then, all other things being equal, the demand for labour will fall by 20%.

$$\frac{\text{(demand for labour falls by 20\%)}}{\text{(wage rates increase by 10\%)}} \quad \frac{-20}{+10} = -2 \text{ (elastic demand for labour)}$$

For example, if demand for labour falls by 2% when wage rates rise by 20%, all other things being equal, then elasticity of demand for labour will be 0.01 (see Figure 3).

$$\frac{\text{(demand for labour falls by 2\%)}}{\text{(wage rates rise by 20\%)}} \quad \frac{-2}{+20} = -0.1 \text{ (inelastic demand for labour)}$$

A number of factors determine the elasticity of demand for labour:

### TIME

The longer the time period for adjustment, the easier it is to substitute labour for other factors of production or vice versa. In the short term, a firm may have little choice but to employ the same number of workers even if wage rates increase rapidly. Workers will have contracts of employment. There may be severe financial penalties in the form of redundancy payments if workers are made redundant. Or a firm may not wish to lose skilled staff because they would be difficult to replace. In the longer term, the firm can buy new labour-saving machinery and make changes to its methods of work which will reduce the labour employed. Hence the

FIGURE 3

**Elasticity of demand for labour**

longer the time period, the more elastic the elasticity of demand for labour will tend to be.

## AVAILABILITY OF SUBSTITUTES

The easier it is to substitute other factors, such as capital for labour, the greater the response by firms to a change in wage rates will be. For example, the easier it is to substitute capital for labour, the more elastic the elasticity of demand for labour will tend to be.

## ELASTICITY OF DEMAND FOR THE PRODUCT

Labour is a derived demand. It is only demanded because the goods that it produces are demanded. For instance, if there is a collapse in demand for steel, then there will also be a collapse in the demand for steel workers. This means that the elasticity of demand for labour in an industry is directly related to the elasticity of demand for the product made in the industry. If the elasticity of demand for the product is more inelastic, as for instance for gas or electricity, then a sudden rise in wages which pushes up gas or electricity prices will have little effect on demand for gas or electricity. Therefore there will be little effect on employment in the industry and hence the elasticity of demand for labour will be more inelastic. If, on the other hand, elasticity of demand for the product is more elastic, elasticity of demand for labour will be more elastic. A steel company, for instance, faces highly elastic demand for many of its products. A rise in wages not matched elsewhere in the industry is likely to increase its prices and lead to a loss of orders and therefore jobs.

## THE PROPORTION OF LABOUR COST TO TOTAL COST

A rise in **unit labour costs**, the cost of employing labour per unit of production, will reduce the supply of a product, shifting the supply curve upwards and to the left. This will lead to a reduction in quantity demanded. The bigger the shift, the larger the reduction in demand. If a group of workers gains a 50% pay rise but these workers only account for 1% of the total cost of production, then the supply curve of the product will hardly shift. There will be a small fall in demand and hence a small loss of employment in the firm. If, however, this group of workers accounted for 60% of the costs of the firm, then a 50% pay rise would have a big effect on the supply curve and lead to a large decrease in quantity demanded of the product. This in turn would lead to a large fall in employment. Hence, the larger the proportion of labour cost to total cost, the more elastic the elasticity of demand for labour.

## ACTIVITY 3

SKILLS ANALYSIS

### CASE STUDY: ELASTICITY OF DEMAND FOR LABOUR

1 Would you expect the elasticity of demand for labour for lorry drivers to be relatively elastic or inelastic? Provide a reason for your answer.
2 Would you expect the elasticity of demand for labour for doctors to be relatively elastic or inelastic? Provide a reason for your answer.
3 Would you expect the elasticity of demand for labour for farm workers to be relatively elastic or inelastic? Provide a reason for your answer.

## THINKING LIKE AN ECONOMIST

### EXECUTIVE PAY

The average pay of the directors of the largest 100 companies quoted on the London Stock Exchange increased by 23 per cent in 2017. Over the same period, average pay in the UK rose by 2 per cent. Chief executives at some of Britain's biggest companies in 2017 earned 145 times more than an average full-time employee, compared with 128 times more in 2016. The highest-paid chief executive in 2017 was Jeff Fairburn at house-builder Persimmon, who received £47.1m, or 22 times his 2016 pay. Second highest, Simon Peckham of Melrose Industries, was paid £42.8m, equal to 43 times his 2016 pay, according to the analysis of the Chartered Institute of Personnel and Development.

Economic theory would suggest that firms will pay the marginal worker the value of their marginal revenue product. There is only one chief executive in a firm. However, across the economy, there are many chief executives and so there is a market for chief executives. The marginal revenue product of a chief executive is the addition to revenue product that the employee brings to the company. If there was no chief executive, how much would total revenue product fall?

Chief executives could argue that their marginal revenue product is very high. A large company can easily see millions of pounds lost or gained in revenue in a single year. In 2017 Persimmon PLC increased revenues 9.1 per cent from £3.14bn to £3.42bn and net income improved 25.84 per cent from £625.30m to £786.90m. Melrose Industries PLC increased revenues 135.26 per cent from £889.30m to £2.09bn in 2017. These executives' pay increases were only a fraction of the increase in revenue of the companies.

However, this does not explain why there has been such a large increase in executive pay in recent years. Why should the ratio of chief executive pay to that of the average full-time employee have risen from 128:1 to 145:1 between 2016 and 2017–18? It also does not explain why executive pay can rise when revenues and profits have fallen. For example, in 2017–18, Barclay's Bank still paid bonuses of £1.5bn despite the fact that it made a loss of £2bn.

The marginal revenue product, the value that executives bring to a company, is clearly only one factor in determining their pay. In situations where pay rises when performance falls, it is clearly not a particularly important factor. Economic theory might help to explain this by pointing out the 'divorce of ownership from control' in large companies. What is best for executives is not necessarily best for the owners, the shareholders. It should also be remembered that shareholders do not set executive pay: at best, they might be asked to vote on this at a shareholders meeting. It is directors who set the pay of other executives and directors. Over time, the statistics suggest directors and executives have taken an ever larger share of the profits of companies both in the UK and the USA, whatever the value of their marginal revenue product to their employer.

## CHECKPOINT

1. Why do firms demand labour?
2. What is meant by diminishing returns?
3. How is MRP determined?
4. Why is the MRP curve also the demand for labour curve?
5. What will happen to the demand for labour if labour productivity increases?
6. What will happen to the demand for labour if the price of the product falls?
7. If wage rates increase relative to the price of capital, what will happen to the demand for labour in the long run?
8. What is the formula for elasticity of demand for labour?
9. Give the four factors that affect the elasticity of demand for labour.
10. Give one example of a change that would make the elasticity of demand for labour become elastic.

## SUBJECT VOCABULARY

**derived demand** demand for labour is derived from the demand for the product

**elasticity of demand for labour** the responsiveness of the quantity demanded of labour to changes in the price of labour, the wage rate. It is measured by the formula

$$\frac{\%\text{ change in quantity of labour demanded}}{\%\text{ change in the wage rate}}$$

**marginal physical product (MPP)** the physical addition to output of an extra unit of a variable factor of production

**marginal revenue product (MRP)** the value of the physical addition to output of an extra unit of a variable factor of production. In a perfectly competitive product market, where marginal revenue equals price, it is equal to marginal physical product times the price of the good produced

**total physical product (TPP)** the total output of a given quantity of factors of production

**unit labour cost** cost of employing labour per unit of output or production

# EXAM PRACTICE

## WAGE GROWTH IN CHINA IN 2018

SKILLS PROBLEM-SOLVING, REASONING, COMMUNICATION, ANALYSIS

In 2018, while economic growth in China was slowing overall and manufacturing companies were cutting jobs, demand for labour was increasing from the growing services and IT sectors.

Tens of thousands of people were hired to work in cybersecurity, to try to make China number 1 in the application of artificial intelligence (AI). Capital investment was in both start-ups and more mature businesses as the Chinese government encouraged rapid development in the sector. Technology is a main reason for growth in China: output in China's information technology and software sector increased by 33.8% in the fourth quarter of 2017.

'Companies are well-funded and are in competition for talent,' said Thomas Liang, a former executive at Chinese search giant Baidu. He said that start-ups in main growing sectors, such as AI, often have to offer 50–100% pay rises to attract employees away from established technology firms.

China's emergence as a global centre for technology, with large firms, such as Alibaba and Tencent, now worth more than a trillion dollars combined, has led to a hiring boom and wage growth that is putting salaries for the top talent near to wages offered in Silicon Valley, US.

Q

1 What is the elasticity of demand for labour if a 10% increase in wage rates results in a 30% fall in demand for labour. **(1 mark)**
   (a) –1
   (b) –2
   (c) –3
   (d) –4

2 If the elasticity of demand for labour is 0.3, what change in the wage rate would cause the demand for labour to fall by 10%? **(1 mark)**
   (a) 20%
   (b) 30%
   (c) 40%
   (d) 50%

3 Define derived demand. **(2 marks)**

4 Explain two reasons why the elasticity of demand for labour in China might become more inelastic. **(4 marks)**

5 Using a suitable diagram, examine the effect of increased prices for Chinese goods on the demand for labour. **(8 marks)**

# 16 THE SUPPLY OF LABOUR

UNIT 3
3.3.4

## LEARNING OBJECTIVES

- Understand the factors that influence the supply of labour to a particular occupation including size of population, net migration, income tax rates, level of welfare benefits, government regulation and trade unions
- Understand the factors that influence the elasticity of supply of labour

## GETTING STARTED

Laketta leaves school at 18 and needs to decide on an occupation. She is thinking of becoming a lawyer or a teacher. What factors will influence her decision of which one to choose?

## SUPPLY OF LABOUR TO AN OCCUPATION

The **supply of labour** is the number of workers willing and able to work in a particular job or occupation for a given wage. The supply of labour to a particular occupation is affected not just by monetary considerations. Non-monetary considerations can be important too, such as job satisfaction. Workers are prepared to accept lower wages if there is greater job satisfaction. Evidence suggests, though, that higher pay is associated with greater job satisfaction because higher paid jobs tend to give workers more control over their working environment.

An occupation can have an increase in the number of hours worked by its labour force in two ways:

- it can increase the number of hours worked by its existing labour force
- it can recruit new workers.

A rise in wage rates, all other things being equal, may or may not increase the supply of labour by individual workers in the occupation. However, it is likely to attract new workers into the occupation. These new workers may be from other occupations or they may be workers who previously did not hold a job, such as house persons or the unemployed. Therefore, the supply curve of labour for an occupation is likely to be upward sloping, the ability of firms to recruit new workers outweighing any possible disincentive effect on existing workers. The higher the occupation wage rate, the more workers will want to enter that particular occupation.

**FIGURE 1**

**Labour supply curve for a particular occupation**

## ACTIVITY 1

SKILLS REASONING, ANALYSIS

### CASE STUDY: SUPPLY OF LABOUR TO AN OCCUPATION

Investigate a particular occupation in your country. What influences the number of people who decide to join that occupation? Has anything changed in the last five years to change the supply of labour to that occupation?

## SHIFTS IN THE SUPPLY OF LABOUR CURVE

There are a number of factors that influence the supply of labour to a particular occupation.

### SIZE OF POPULATION

The size of the total population in a country can influence the number of people who can enter a particular occupation. The **working population** of a country is the number of people who are of working age, which is between the school leaving age and the state retirement age, and are willing and able to work. The higher the working population the more people who could enter the occupation and increase supply. If the school leaving age is raised then the working population will decrease. If the age at which people retire is raised then the working population will increase.

However, it is not just the total number of people but also the number of people who are **economically active**, that is the number of workers in the workforce who are in a job or are unemployed. If there are fewer people who are part of the workforce then the supply of labour to any particular occupation is likely to be lower. Therefore, the **activity or participation rate** is an important influence. An example would be the number of women who participate in the labour market. If more women train to become doctors then the population could remain the same size but the supply of labour to the occupation of being a doctor would increase.

The age structure of the population is also important, for example if the total population increases but it is due to an **aging population** as people live longer, then the supply of labour may not increase. Even though there are more people in the population, there are not more people who are active and are working.

### NET MIGRATION

A positive **net migration**, i.e. more people entering the country than leaving it, may increase the supply of labour to a particular occupation. However, if there is a negative net migration then the supply of labour to an occupation may decrease. For example, countries that are members of the European Union (EU) single market allow the free movement of labour. A rising flow of people seeking work in one EU country can make labour migration an important factor in determining the supply of labour available to many occupations in that particular country. Positive net migration could be to prevent shortages of skilled labour in the health service such as doctors or nurses, or education where there is a shortage of teachers, or to meet the seasonal demand for workers in agriculture and the construction industry. However, in a country where there is negative net migration then there may be a decrease in the supply of labour to particular occupations, leading to skill shortages.

### INCOME TAX RATES

LINK Student Book 1, Chapter 39

If income tax rates are increased, it may make working less attractive as **disposable income** reduces. This may lead some workers, such as low paid domestic servants, to leave their occupation and not work at all or to find work in an alternative occupation that has much higher wage rates, so that after tax the disposable income is much higher. This will lead to a reduction in the supply of labour to low paid occupations.

If income tax is progressive, i.e. the percentage paid in tax is increased at higher wage rates, this may act as a disincentive for workers to gain promotion or to enter occupations that may be unpleasant or dangerous (such as police officers or sewage workers). The disposable income after tax may make these jobs unattractive and therefore the supply of labour to these occupations may fall. Workers in these occupations may also be discouraged from working as many hours and therefore supply of labour hours may decrease.

A progressive income tax may mean the marginal rate of tax, i.e. the tax paid on the last dollar earned, is high. It could be 50 or 60 per cent, acting as a disincentive to effort and a reduction in the supply of labour as workers perceive that it is not worth working additional hours.

If income tax is not paid by people on low incomes then these workers have an incentive to supply their labour. However, if wages are generally rising in an economy and this tax free allowance is not raised in line with inflation then low income earners may find themselves getting a pay rise but also starting to pay income tax. This is called fiscal

drag. For example, if the tax free amount of income is $10,000 and anything above that is paid at 30 per cent then a worker earning $9,000 will not pay income tax. However, if this worker has a pay rise and now earns $11,000 they will start to pay income tax at 30 per cent of $1,000 ($1,000 is the extra income above the tax free amount) – that is $333.33. This may influence whether the worker thinks it is worth supplying their labour to that occupation.

## LEVEL OF WELFARE BENEFITS

LINK Student Book 1, Chapter 39

This mainly affects occupations that are paid wage rates not much higher than the **welfare benefits** paid by a government. If the level of welfare payments increases, the supply of labour to some occupations may decrease as workers leave the labour market and remain unemployed as work does not appear to be worth it. However, if the level of welfare benefits is low then supply of labour is likely to increase to low paid occupations as take-home pay is higher than welfare benefits. If the level of welfare benefits is reduced then the supply of labour to particular occupations may increase as people find it is now worth working in that occupation and re-join the labour force. The level of welfare benefits is unlikely to affect high wage occupations.

## GOVERNMENT REGULATIONS

Artificial limits to a particular occupation's labour supply (for example, through the introduction of minimum entry requirements) can restrict labour supply and force pay levels higher. This is often true for professional occupations such as legal services, teaching and medicine which have strict qualification requirements. For example, if there are only a certain number of places at university for people to train to be doctors then the supply of doctors will be limited unless there is immigration of these skilled workers.

This may reduce the supply of labour to an occupation if it is more difficult to qualify for a particular occupation or it could increase supply if more training opportunities are made available to people, for example if more places become available for people to train to become lawyers.

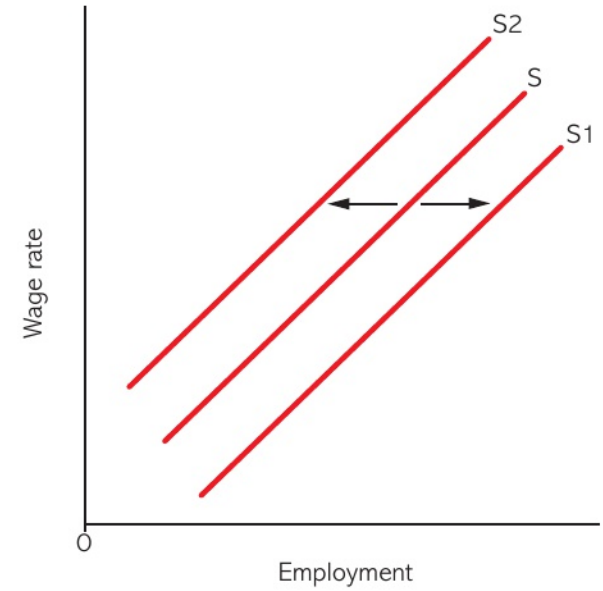
## TRADE UNIONS

Trade unions have an influence on wage levels in particular occupations and therefore may attract workers from other occupations that do not have trade union membership and have lower wage rates. Occupations that have trade unions representing the workers, on average, tend to have higher wage rates than occupations that do not have trade unions present. If the trade union makes an occupation more attractive – for example, the garment industry in Bangladesh is safer and has better working conditions possibly due to the actions of trade unions – then the supply of labour to this occupation may increase.

**FIGURE 2**

**Shifts in the supply curve**

Figure 2 shows shifts in the supply of labour. An increase in supply is shown by the shift from S to S1 and a decrease in supply is shown by a shift from S to S2.




## ACTIVITY 2

SKILLS REASONING, ANALYSIS

### CASE STUDY: SHIFTS IN THE SUPPLY OF LABOUR CURVE

For each of the following situations, say whether the supply curve will increase or decrease:

1. The number of people entering a country is higher than the number leaving to work abroad with the skills for a particular occupation.
2. There is an increase in the population due to an increase in the birth rate over the last three years.
3. The government increases income tax on high incomes. How will this affect the supply of labour for surgeons?
4. An engineering occupation has a trade union start up to represent the workers.

## ELASTICITY OF SUPPLY OF LABOUR

The elasticity of supply of labour is a measure of the responsiveness of the quantity of labour supplied to changes in the price of labour (i.e. the wage rate). It has a positive relationship as the supply of labour curve is upwards sloping. This means that as the wage rate increases then so does the supply of workers willing to increase their supply of labour to the market.

$$\text{elasticity of supply of labour} = \frac{\text{percentage change in quantity of labour supplied}}{\text{percentage change in wage rate}}$$

For example, if the wage rate increases by 10% then the quantity of labour supplied will increase by 20% if the elasticity of supply of labour is 2 (Figure 3).

(20% increase in the quantity of labour supplied) / (10% increase in the wage rate) $= \frac{+20}{+10} = +2$ (elastic supply of labour)

For example, if the wage rate increases by 25% then the quantity of people willing to supply their labour will increase by 12.5% if the elasticity of supply of labour is +0.5.

(12.5% increase in the quantity of labour supplied) / (25% increase in the wage rate) $= \frac{+12.5}{+25} = +0.5$ (inelastic supply of labour)

The elasticity of supply of labour to an occupation will depend upon a number of factors.

### THE AVAILABILITY OF SUITABLE LABOUR IN OTHER INDUSTRIES

An engineering company wanting to recruit unskilled workers will be able to attract workers relatively easily from other industries because there is a large pool of unskilled workers spread across other industries. Schools will have more difficulty recruiting teachers because there is a limited number of workers with appropriate teaching qualifications to fill positions. So the elasticity of supply of workers with skills suitable for more than one industry is likely to be more elastic than that of a group of workers who are not suitable to work in other industries.

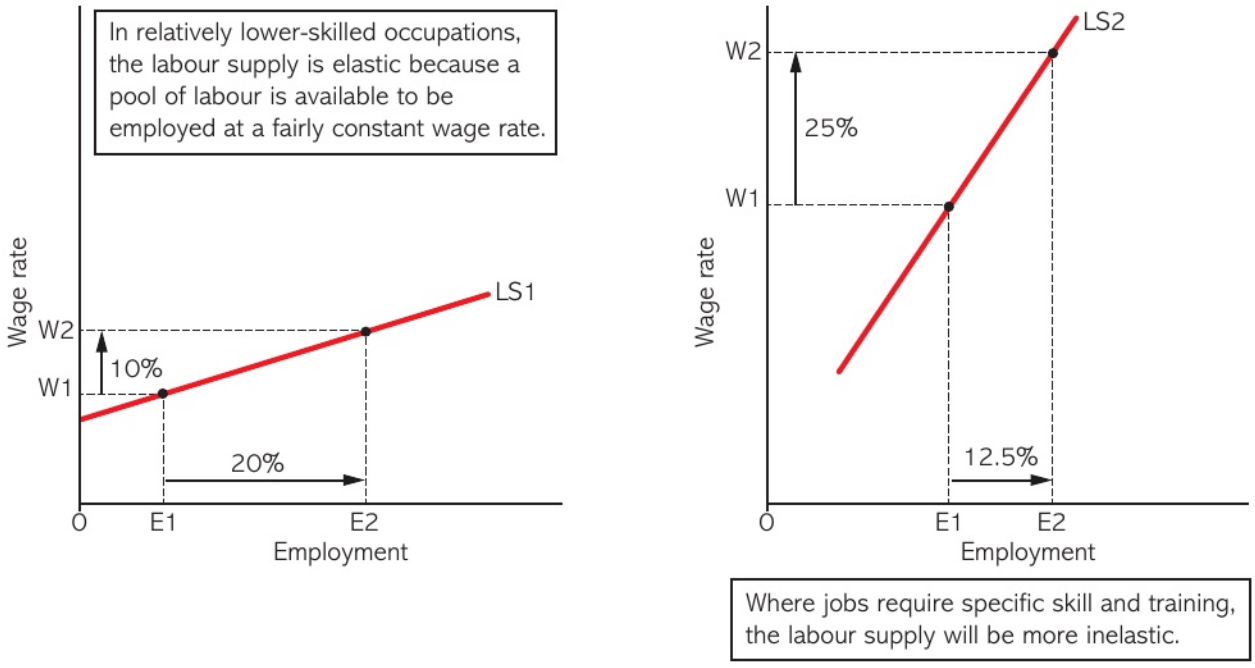
**Time** Elasticity of supply is likely to be less elastic, or more inelastic, in the short run than in the long run. For example, the education service might not be able to recruit large numbers of extra teachers tomorrow or next term. But supply could be expanded over a 5-year period by increasing places on teacher training courses.

### THE EXTENT OF UNEMPLOYMENT

The higher the level of unemployment, the more elastic the elasticity of supply is likely to be. With high unemployment, firms are more likely to be able to recruit workers at the existing real wage rate from the pool of the unemployed (see Student Book 1, Chapter 23).

**FIGURE 3**

**Elasticity of supply of labour**



## THINKING LIKE AN ECONOMIST

### FRENCH COMPANIES COMPLAIN OF SKILLS SHORTAGES

France, like a number of other European countries, faces the strange combination of labour shortages in some occupations alongside relatively high national unemployment. Economic theory would suggest that if there is insufficient supply of labour to an occupation then wages will rise and this will attract more workers into that occupation. If unemployment is high then the supply of unemployed workers ought to allow more workers to be trained so they can supply their labour to those occupations where there are shortages. At the Peugeot manufacturing plant in Valenciennes, northern France, there is a limited supply of workers who can repair faults in the production line's increasingly complex electric circuits and water, gas and heating systems. Faced with an increase in the orders for cars, Peugeot has even had eight Polish maintenance workers and 10 Austrians transferred from plants abroad to the French site to help meet orders. Competition is increasing too. Some workers have left the Peugeot plant after being offered a better-paid job in a food-processing factory across the Belgian border, 12 kilometres away. The Toyota plant nearby has also announced plans to hire 300 workers. Mr Martel, a union leader, says, 'Some people at Peugeot are going to be tempted by jobs at Toyota, that's for sure.'

Narrowing the skills gap will be central to French President Emmanuel Macron's promise to lower unemployment to 7 per cent by the end of his term in 2022. The French leader has announced plans to spend about €15bn in training schemes for the unemployed, who in France are more likely to be poorly qualified or to have spent a long time out of a job – on average about a year.

Mr Macron this week identified the skills gap as the biggest issue in tackling high unemployment. 'There are two million unemployed in France who have no qualifications,' he said. 'We are reforming the training schemes to help improve the situation.'

The government plans to increase the number of apprentices and is also in talks with unions and employers' organisations about how to link welfare benefits more closely with training so that people who are receiving welfare benefits can also train at the same time.

In the longer term, new manufacturing methods and equipment are driving a shift towards more highly qualified workers. Peugeot is seeking to train its workers to handle new technology, Luc Samsoen, head of human resources, says. It is not easy: last year, only about 70 workers out of the targeted 100 had acquired the necessary skills. Training unemployed people will be even more difficult, Mr Martel believes.

## CHECKPOINT

1. What is meant by the supply of labour to a particular occupation?
2. Why is the supply of labour to a particular occupation upward sloping?
3. How might the size of the population affect the supply of labour to an occupation?
4. How might net migration affect the supply of labour to an occupation?
5. How might income tax rates affect the supply of labour to an occupation?
6. How might the level of welfare benefits affect the supply of labour to an occupation?
7. How might government regulations affect the supply of labour to an occupation?
8. How might trade unions affect the supply of labour to an occupation?
9. What is meant by elasticity of supply of labour?
10. Give the four factors that affect the elasticity of supply of labour.

## SUBJECT VOCABULARY

**activity or participation rate** the percentage or proportion of any given population in the labour force

**aging population** where there is an upwards shift in the average age of the population of a country so that there is a growing number of people who are older than the standard working age

**demographics** the statistics of the characteristics of a population who live in a particular area or country; examples of the characteristics that can be included are age, income, education, gender, ethnicity

**disposable income** household income over a period of time including state benefits, less direct taxes

**economically active** the number of workers in the workforce who are in a job or are unemployed

**net migration** the difference between emigration and immigration

**supply of labour to an occupation** the number of workers willing and able to work in a particular job or occupation for a given wage rate

**underemployment** where people are not able to work as many hours as they would like, or are in jobs that are below their skill level

**welfare benefits** money paid by a government to give financial benefits to people who are ill, unemployed, on a low income or too old to work

**working population** size of the population aged between the school leaving age and the state retirement age

# EXAM PRACTICE

## ASIA'S LOOMING LABOUR SHORTAGE

SKILLS ANALYSIS, CRITICAL THINKING

The Philippines has a large amount of labour, and China needs domestic workers. This exemplifies two **demographic** trends in Asia. Poor, young South and South-East Asian countries suffer low wages and **underemployment**, while richer countries in the north with aging populations need more people to add to their workforces. Theoretically, this problem contains its own solution: millions of young workers should go north and east. Receiving countries would benefit from their labour, while their home countries would benefit from their remittances and eventually from the transfer of skills when the workers return, as many migrant workers do.

Asia is home to about half of the world's people, but is the source of only 34 per cent of its emigrants and host to only 17 per cent of its immigrants. About a third of Asians who leave their country remain in Asia, and despite wide income and age gaps between one end of Asia and the other, two-thirds of intra-Asian migrants remain in their own part of the region. South Asians migrate elsewhere in South Asia, East Asians stick to East Asia, and so on.

Over the next 30 years, China's working-age population will shrink by 180 million. China's handling of this fall will influence Asian migration patterns. Manufacturers can move factories to labour-rich countries, or invest in automation. Other industries lack that option. It has been forecast that China will need 20 million more domestic workers as its population ages.

To keep the share of its population of working age steady, East Asia would need 275 million more people between the ages of 15 and 64 to move to these countries by 2030. Singapore, Malaysia, Vietnam and especially Thailand need workers, while Myanmar, Indonesia and the Philippines have too many. South Asia, meanwhile, could afford to lose 134 million workers. China's projected shortfall in 2030 is equivalent to 24 per cent of its current working-age population; in Bangladesh the likely surplus is 18 per cent.

Hong Kong has opened its borders to foreign nurses, child care workers and domestic workers. It introduced a scheme to encourage foreign domestic workers and by the end of 2015 Hong Kong had over 340,000 foreign domestic 'helpers'– one for every 7.3 households. Over half still come from the Philippines, with another 44 per cent from Indonesia. Their employers must provide food, accommodation, travel to Hong Kong and wages of at least HK$4310 ($556) a month.

Source: Asia's looming labour shortage, © 2017, Used with permission from The Economist Newspaper Limited

Q

1 Explain the term net migration. **(4 marks)**

2 Explain two influences on the supply of labour to domestic service in China. **(4 marks)**

3 Examine the effects on the supply of domestic servants to other countries if the Philippine government was to increase welfare payments to the unemployed. **(8 marks)**

4 Evaluate the extent to which the supply of nurses in Hong Kong is likely to be elastic. **(20 marks)**

# 17 THE DETERMINATION OF WAGE RATES IN COMPETITIVE AND NON-COMPETITIVE MARKETS

UNIT 3
3.3.4

## LEARNING OBJECTIVES

- Understand how the labour market equilibrium is achieved
- Understand the causes of changes in the equilibrium wage rate and quantity of labour as a result of shifts in demand curves and supply curves
- Understand how wages are set in the public sector/ state-owned enterprises

## GETTING STARTED

Why do all workers not earn the same amount per year? Why does every worker not get paid the same wages as a premier league football player?

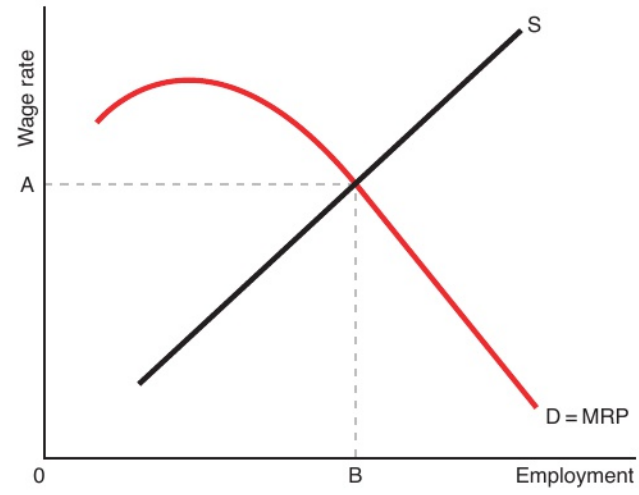
## LABOUR MARKET EQUILIBRIUM

Prices are determined by demand and supply. So the price of labour, the wage rate, is determined by the demand for and the supply of labour.

The demand curve for labour in a particular occupation is the marginal revenue product curve of labour. This is downward sloping, indicating that more labour will be demanded the lower the wage rate. The supply curve of labour to a particular occupation is upward sloping, indicating that more labour will be supplied if wage rates increase. This gives an equilibrium wage rate of 0A in Figure 1. 0B units of labour are demanded and supplied.

FIGURE 1

**Equilibrium wage rate in an industry/occupation**
The equilibrium wage rate is 0A while the level of employment in equilibrium is 0B.



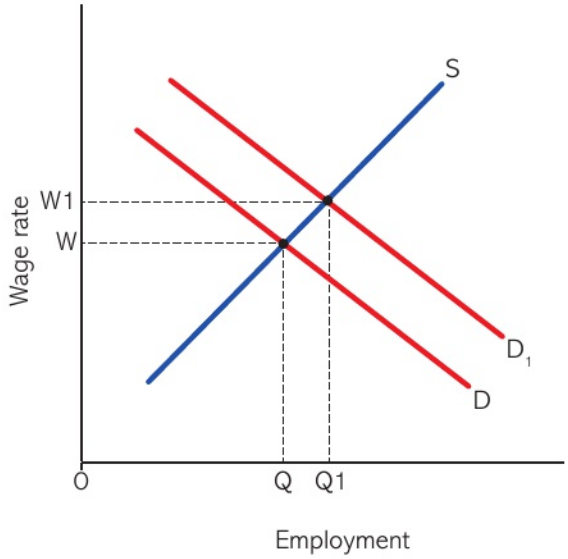

## CHANGES IN THE EQUILIBRIUM WAGE AND QUANTITY OF LABOUR

The demand and supply curves for labour can shift for a variety of reasons, giving new equilibrium wage rates and levels of employment in the industry/occupation. The demand curve for labour will move to the right showing an increase in the demand for labour if the marginal revenue product of labour increases. This might occur if:

- productivity improves, perhaps due to changing technology or more flexible working practices, increasing output per worker
- there is a rise in the selling price of the product, increasing the value of the output of each worker
- the price of capital increases, leading to a substitution of labour for capital.

**FIGURE 2**

Figure 2 shows an increase in demand for labour, D to $D_1$, leading to an increase in the wage rate from OW to OW1 and an increase in quantity of labour from OQ to OQ1.

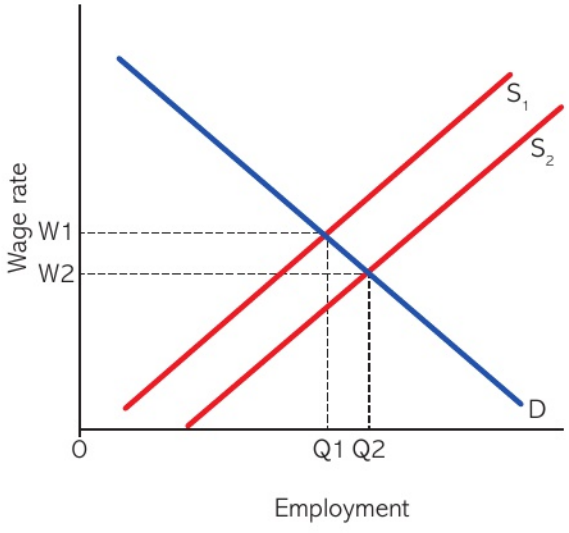



The supply curve might move to the right, showing an increase in supply, if:

- there is an increase in the number of workers in the population as a whole, perhaps because of changing demographic trends, or because government alters tax and benefit levels, increasing incentives to work
- wages or conditions of work deteriorate in other industries, making conditions relatively more attractive in this industry/occupation.

**FIGURE 3**

This figure shows an increase in supply of labour, $S_1$ to $S_2$ leading to a decrease in the wage rate from OW1 to OW2 and an increase in quantity of labour from OQ1 to OQ2.




## ACTIVITY 1

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: LABOUR MARKET EQUILIBRIUM

1 On a diagram, draw a demand and supply curve for labour in the bicycle production industry.
2 Mark on the diagram the equilibrium wage rate and the equilibrium level of employment.
3 Show how the demand curve or the supply curve might shift if there is:
   (a) a fall in labour productivity
   (b) an increase in wage rates in all other labour markets in the economy
   (c) a fall in demand for bicycles
   (d) an introduction of new labour-saving technology in bicycle production
   (e) a fall in the number of 16- to 25-year-olds in the population as a whole.

## ELASTICITIES OF DEMAND FOR AND SUPPLY OF LABOUR

The elasticities of demand for and supply of labour affect what happens to the wage rate and employment in a market when demand and supply change.

Figure 4 shows a labour market when supply is highly inelastic. If there is an increase in demand for labour, shown by the shift in the demand for labour curve from $D_1$ to $D_2$, then there will be very little percentage increase in employment but a large percentage increase in the wage rate. All other things being equal, the lower the elasticity of supply for labour, the greater the change in the wage rate and the smaller the percentage change in employment as a result of a change in demand for labour.

Figure 5 shows a labour market where demand is highly inelastic. If there is an increase in the supply of labour, shown by the shift in the supply curve from $S_1$ to $S_2$, then there will be very little increase in employment but a large percentage fall in the wage rate. All other things being equal, the lower the elasticity of demand for labour, the greater the percentage change in the wage rate and the smaller the change in employment as a result of a change in supply of labour.

## WHY WAGE RATES DIFFER

In the real world, wage rates differ. One important reason is because labour is not homogeneous or identical. Each worker is a unique factor of production, possessing a unique set of employment characteristics such as:

**FIGURE 4**

**Inelastic supply of labour**

With inelastic supply of labour, an increase in demand for labour from $D_1$ to $D_2$ leads to a large percentage increase of EF in wage rates but only a small percentage increase in employment of AB.

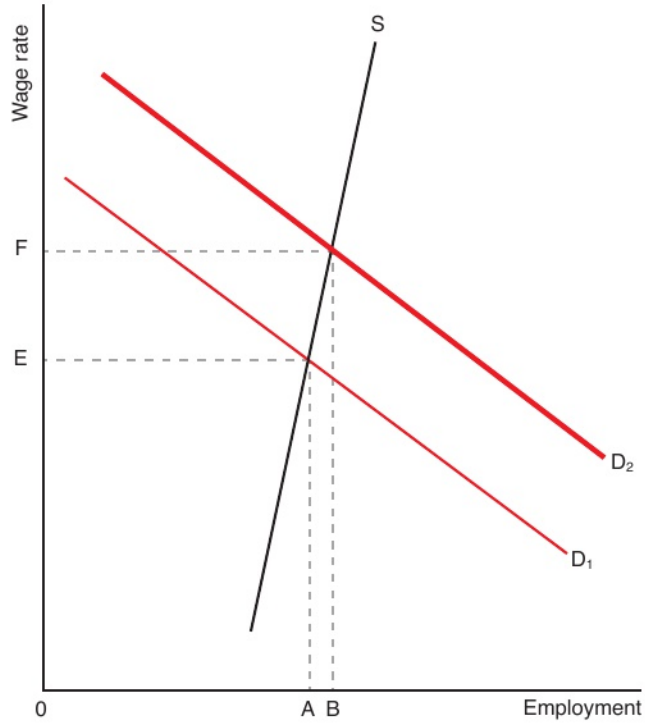
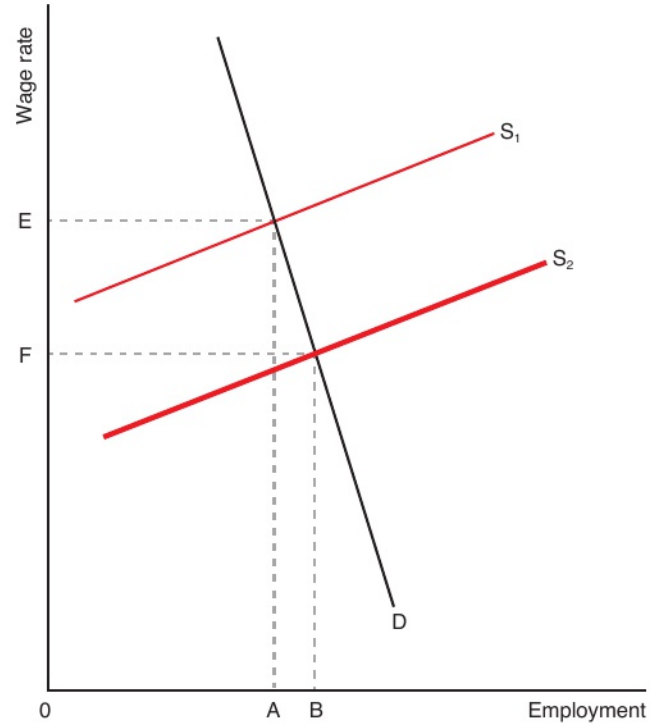



**FIGURE 5**

**Inelastic demand for labour**

With inelastic demand for labour, an increase in supply of labour from $S_1$ to $S_2$ leads to a large percentage fall of EF in wage rates but only a small percentage increase in employment of AB.




- age – whether young, middle aged or old
- education, training and work experience
- ability to perform tasks – including how hard they are prepared to work, their strength and skill or intelligence.

For example, a manager of a company is likely to be paid more than a cleaner working for the same company. The marginal revenue product of the manager is likely to be higher. Her education, skills and work experience are likely to provide greater value to the company than the cleaner's. However, the supply of managers is lower than the supply of cleaners. Most workers in the workforce could be a cleaner, but only a few have sufficient qualities to be managers. Greater demand and less supply lead to higher wage rates for managers than cleaners.

Wage rates also differ because workers do not necessarily seek to maximise wages. Wages are only part of the **net benefit** workers gain from employment. Workers whose jobs are dangerous, unpleasant, repetitive, where there is little chance of promotion, where earnings vary and where there are few or no non-financial benefits may seek higher wages than workers whose jobs possess the opposite characteristics. Market forces will tend to lead not to equality of wage rates but to equality of net benefits to workers.

Labour is not perfectly mobile. Hence there can be unemployment and low wages in southern Italy while employers are offering much higher wages to attract labour in northern parts of Italy. Part of the reason why there is a lack of mobility is the absence of perfect knowledge within the labour market. Workers in southern Italy may be unaware of job opportunities in the north of the country. There are also many other imperfections in the market that prevent wage rates rising or falling in response to market pressures.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS

### CASE STUDY: WAGE DIFFERENCES

| | |
|---|---|
| Name | Petra Ellis |
| Age | 29 |
| Occupation | Personal assistant |
| Location | Dallas, Texas |
| Earnings | $40,000 per year |

| | |
|---|---|
| Name | Mike Sellers |
| Age | 19 |
| Occupation | Fast food worker |
| Location | Boston |
| Earnings | $16,500 per year |

| | |
|---|---|
| Name | Addo Tower |
| Age | 45 |
| Occupation | Finance director |
| Location | New York |
| Earnings | $200,000 per year |

| | |
|---|---|
| Name | Geena Miles |
| Age | 33 |
| Occupation | Civil engineer |
| Location | San Francisco |
| Earnings | $87,000 per year |

**1** Why do the earnings of these workers differ?

## PERFECTLY COMPETITIVE LABOUR MARKETS

In a perfectly competitive labour market, there is a large number of small firms hiring a large number of individual workers. For the individual firm operating in such a market:

- the demand curve for labour, the marginal revenue product curve of labour, is downward sloping
- the supply curve of labour is perfectly elastic and therefore horizontal; the firm can hire any number of workers at the existing industry wage rate.

How many workers should this type of firm employ? If a worker costs $200 per week, but increases revenue net of all other costs by only $150, then he should not be employed.

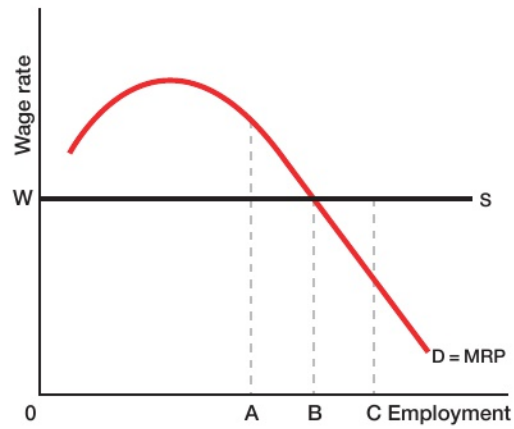
Expressing this theoretically, the firm will hire workers up to the point where the marginal cost of labour is equal to the marginal revenue product of labour. If the marginal cost is higher than marginal revenue product, for instance at 0C in Figure 6, the firm will make a loss on the output produced by the marginal worker and hence it will cut back on employment of labour. If the marginal revenue product of labour is higher than the marginal cost of labour, for instance at 0A, then it will hire more workers because these workers will generate a profit for the firm.

Hence, in Figure 6 the equilibrium level of employment by the firm is 0B. This is the point where the marginal cost of labour (the supply curve) is equal to the marginal revenue product of labour (the demand curve). The equilibrium wage rate is 0W. This is the ruling equilibrium wage rate in the industry as a whole.

**FIGURE 6**

**Equilibrium employment and wage rates for a firm in a perfectly competitive factor market**

In a perfectly competitive factor market, the supply curve for labour facing the firm is horizontal. The equilibrium wage rate, OW, is set by the industry as a whole. The firm will then employ OB workers in equilibrium.



## ACTIVITY 3

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: EQUILIBRIUM IN A PERFECTLY COMPETITIVE LABOUR MARKET

| Number of workers employed | Total revenue product ($ per month) |
|---|---|
| 1 | 700 |
| 2 | 1300 |
| 3 | 1800 |
| 4 | 2200 |

▲ Table 1

The table shows the monthly total revenue product of a profit maximising manufacturing company in a perfectly competitive industry.

1 Plot the marginal revenue product curve on graph paper (remembering to plot the MRP halfway between whole numbers on the employment axis).
2 What would be the maximum number of workers the firm would employ if the monthly wage per worker was:
   (a) $600
   (b) $400
   (c) $425
   (d) $800
   (e) $25?

## NON-COMPETITIVE LABOUR MARKETS

A non-competitive labour market is one where:

- the firm is a dominant or monopoly buyer of labour and is therefore a monopsonist, which is often the public sector or state-owned enterprise, but where there are many individual workers
- the firm is faced with a monopoly supplier of labour, which is most likely to be a trade union
- a firm is a monopoly buyer of labour and is faced with a monopoly supplier of labour.

Each of these three types of imperfectly competitive labour market will now be considered.

## WAGE SETTLEMENTS IN THE PUBLIC SECTOR/STATE-OWNED ENTERPRISES (A MONOPOLY BUYER OF LABOUR)

If a firm is the sole buyer of labour, it is called a monopsonist. In the public sector or state-owned enterprises the government or state employs most, if not all, the workers in that industry or occupation. The state, for instance, employs over 90 per cent of teachers in the UK and therefore is essentially a monopsonist. In other countries, judges and court workers are all employed by the state. A monopsonist is able to exploit market power and therefore it is expected that the monopsonist will use this power to force down wage levels.

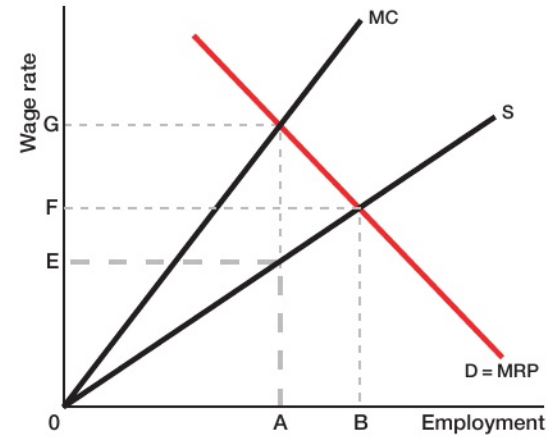
The marginal cost of employing an extra unit of labour is higher for the monopsonist than the average cost or wage. This is because the firm has to raise wage rates to attract extra labour into the industry. So the cost of employing an extra unit of labour is not just the higher wage paid to that unit but also the extra wages that now need to be paid to all the other workers in the industry.

In Figure 7, the demand and supply curves for labour are drawn. The firm will employ workers up to the point where the marginal cost of an extra worker is equal to the worker's marginal revenue product. Therefore the monopsonist will employ 0A workers, the intersection of the marginal cost curve and the marginal revenue product or demand curve. The firm does not then need to pay a wage rate of 0G to each worker. It only needs to pay a wage rate of 0E to attract 0A workers to the industry/occupation.

If the market was perfectly competitive, employment would be 0B and the equilibrium wage rate would be 0F. So economic theory suggests that a monopsonist drives down wages and reduces employment levels compared to a perfectly competitive

**FIGURE 7**

**Monopsony in the labour market**
A monopsonist will hire labour to the point where MC = MRP (i.e. up to the point OA). It will then pay labour the lowest wage rate possible, which is 0E. If the industry had been perfectly competitive then both the equilibrium wage rate 0F and the equilibrium level of employment 0B would be higher than under monopsony.



factor market. Note that this is similar to the perfect competition/monopoly analysis in a goods market where it is argued that a monopolist reduces output and raises prices compared to a perfectly competitive market.

## ACTIVITY 4

SKILLS REASONING, ANALYSIS

### CASE STUDY: UK GOVERNMENT AS A MONOPSONIST EMPLOYER

Teachers' pay in the UK is currently determined by the findings of a School Teachers' Review Body (STRB). This takes evidence from the government, which generally wishes to keep wage increases to a minimum, and from trade unions, which want to see high increases in wages. The government can choose either to accept the recommendations of the STRB or to impose its own, usually lower, pay deal. The government is effectively a monopsonist employer for teachers because only 9 per cent of teachers work in private sector schools.

1 Draw a diagram to show the situation of the government facing trade unions in the market for teachers.

Assume the government decides to impose workplace bargaining in teaching, with individual teachers negotiating with each school in which they are employed.

2 Using a diagram, compare the wages and level of employment this system might create to the current system of national bargaining.

## A MONOPOLY SELLER OF LABOUR – TRADE UNIONS

LINK Student Book 1, Chapter 39

A trade union is an organisation of workers who combine together to further their own interests. Within a company organisation, an individual worker is likely to be in a relatively weak bargaining position compared to his or her employer. The employer possesses far greater knowledge about everything from safety standards to the profitability of the firm than an individual worker. Moreover, the loss of an individual worker to a firm is likely to be far less significant than the loss of his or her job to the employee.

So workers have organised themselves in unions to bargain collectively. Instead of each individual worker bargaining with the firm on a wide range of wage and employment issues, workers elect or appoint representatives to bargain on their behalf. From an economic viewpoint, trade unions act as monopoly suppliers of labour.

Trade unions act to further the interests of their members. One of the key ways in which they do this is to try to achieve higher wages. In economic terms, they attempt to fix a minimum price for the supply of labour. This produces a kinked supply curve.

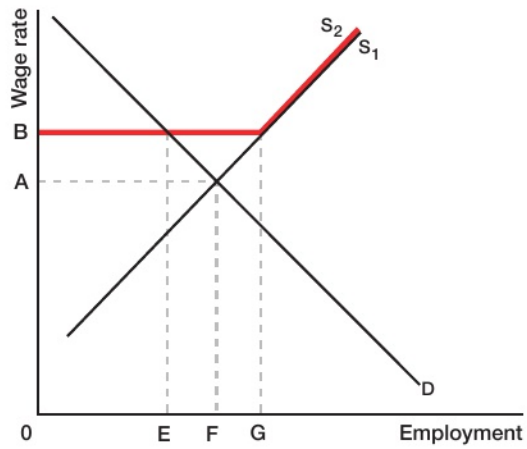
In Figure 8 the non-union demand and supply curves for labour in an industry are D and $S_1$ respectively. A union agreement to raise wages from the free market wage of 0A to the unionised wage rate of 0B means that employers in the industry cannot hire workers below a wage rate of 0B. Therefore, the supply curve is perfectly elastic (i.e. horizontal) over the employment range 0G. The union agreement does not prevent employers paying higher wages than the negotiated wage. Employers would need to pay higher wage rates if they wished to hire more workers than 0G. Above 0G the new supply curve $S_2$ is the same as the old supply curve $S_1$. The new equilibrium wage rate is 0B, the wage rate that the union negotiated. However, employment in the industry falls from 0F (the equilibrium in a non-unionised market) to 0E.

Neo-classical micro-economic theory therefore suggests that trade unions increase wages for their members, but also cause unemployment in the industry. Wages would be lower and employment higher if the industry was non-unionised.

**FIGURE 8**

**Trade unions in a competitive market**

The entry of a trade union to a competitive factor market is likely to 'kink' the supply curve of labour. 0B is the union-negotiated wage rate in an industry. Employment will fall from 0F to 0E while wage rates will rise from 0A to 0B. At a wage of 0B, there is now EG unemployment.



## BILATERAL MONOPOLY

Many trade unions operate in factor markets where there are monopsony employers. A sole seller of labour (the trade union) faces a sole buyer of labour (the monopsonist). This is called a **bilateral monopoly**.

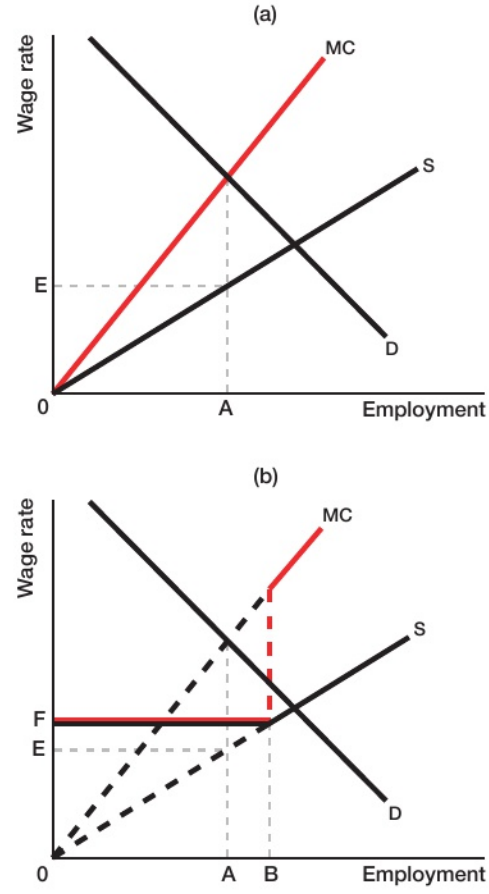
Economic theory suggests that a trade union will increase both wages and employment compared to a factor market where a monopsony employer negotiates with a large number of individual employees. Figure 9(a) shows the wage and employment levels in an industry with a monopsonist and many individual employees. Employment is 0A and the equilibrium wage rate is 0E. Figure 9(b) shows the entry of a trade union to the industry. Assume that the trade union forces the wage rate up to 0F. This produces a kinked supply curve. The monopsonist cannot pay a wage rate lower than 0F because of its union agreement. However, it is free to pay higher wage rates if it wishes to employ more than 0B workers. This produces a kink in the marginal cost of labour to the firm. Up to 0B, the marginal cost of labour is the same as the union negotiated wage rate. The employer can hire an extra unit of labour at that wage rate. If it employs more than 0B workers, the wage rate will rise, resulting in a jump in marginal cost at 0B. The monopsonist has a profit incentive to hire extra workers so long as the marginal revenue product of labour, shown by the demand curve, is greater than the marginal cost of labour. Hence it will employ 0B workers.

Why should a monopsonist buy more labour at a higher wage rate from a union than it would otherwise? It should be remembered that a firm bases its decision on how much labour to hire not on the wage rate (the average cost of labour) but on the marginal cost of labour. It can be seen from Figure 9 that the marginal cost of unionised labour is lower between employment levels A and B than it would have been if labour had been non-unionised. In the former case it is flat at 0F, while in the latter it is rising steeply above 0F.

**FIGURE 9**

**Trade union vs a monopsonist employer**

A monopsonist facing a large number of employees in an industry will force wage rates down to 0E and restrict employment to 0A. The entry of a trade union to the industry which sets a minimum wage of 0F will 'kink' the supply curve of labour and cause a gap in the marginal cost curve for labour. The monopsonist has a profit incentive to hire extra workers so long as the marginal revenue product of labour, shown by the demand curve, is greater than the marginal cost of labour. Hence it will employ 0B workers.




## THINKING LIKE AN ECONOMIST

### DUBAI WAGE AND PAY SCALES IN 2017

Economic theory suggests that all wage rates would be the same if all labour was homogeneous and jobs had the same characteristics. In the real world, workers are not identical. They differ, for instance, in their ability to carry out their job efficiently, where they are prepared to work and the hours they work. For example, Dubai has no minimum wage rates, and wage rates are usually similar to or greater than those paid in Western nations. However, wage rates vary widely depending on nationality, qualifications, experience, employee history, individual negotiation skills and other factors.

Where there is a large supply of workers, such as for manual labour type jobs which are physically hard but low skilled, the workers are poorly paid. The majority of workers in this type of employment

are from India, Pakistan, the Philippines and Indonesia. Labourers work for 12 hours a day and seven days a week. Domestic helpers, child-carers, gardeners, drivers, and security guards also come under this category. Minimum wage rates for domestic helpers are set by the respective governments of the countries they come from, so different wages are paid to these workers.

Jobs in tourism and service sectors are poorly paid and quite hard work, and the supply of workers to these occupations is high relative to demand. The majority of people working in these jobs come from Asia, particularly the Philippines. In some sectors, such as aircraft crew, many nationalities are represented, and working conditions and wage rates are much better, because these workers are more skilled and could gain employment with other airlines.

Managers, directors and CEOs received increasing wage rates during the 2006–08 period, but, when the building boom ended in 2009, demand for the product fell and so demand for the labour to provide this product also fell; this is a case of derived demand.

CEOs and managing directors are usually paid well. The supply of workers suitable for these jobs is likely to be limited and productivity of these workers is likely to be high. Both these factors mean that wage rates are likely to be high.

## CHECKPOINT

1 What is meant by labour market equilibrium?

2 Why do wage rates vary?

3 Using a supply and demand diagram, show how a fall in the demand for labour will affect the equilibrium wage rate and quantity of labour.

4 Using a supply and demand diagram, show how a fall in the supply of labour will affect the equilibrium wage rate and quantity of labour.

5 What are the differences between competitive labour markets and non-competitive labour markets?

6 Is the wage rate likely to be higher in a competitive labour market than in a non-competitive labour market? Give reasons for your answer.

7 Are employment levels likely to be higher in a competitive labour market than in a non-competitive labour market? Give reasons for your answer.

8 Why are public sector or state-owned enterprises often monopsonist employers?

9 How does a monopsony affect the wage rate and employment level in the industry or occupation?

10 How are wage rates and employment levels different if there is a trade union representing the workers and a monopsony employer?

## SUBJECT VOCABULARY

**bilateral monopoly** when a single buyer faces a single seller in a market; in a labour market, this is most likely to occur when government is the single buyer of a type of labour and the workforce is unionised, so that the trade union acts as a single seller

**net benefits** as well as the wage rate, the supply of labour is influenced by non-monetary benefits or drawbacks, such as changes in working conditions, job security, holiday entitlement, promotion prospects, and other effects of working in a particular job or occupation

# EXAM PRACTICE

## CHINA'S WAGE GROWTH

SKILLS: REASONING, ANALYSIS, CRITICAL THINKING, COMMUNICATION

China used to have a very large supply of workers as people moved from rural areas into the cities in search of work, and this made wage rates low. China was a low-cost country for firms to employ workers and it became an attractive place for firms to invest. China has had high rates of economic growth as a result of this investment and the increase in the labour supply from rural areas. As the economy has grown and the demand for workers has increased, wage rates have also increased.

However, China will move to being a labour-shortage economy between 2020 and 2025, according to an IMF paper published in 2013, and new evidence shows that this may be approaching even faster than the IMF had predicted. This is happening because the surplus supply of workers from rural areas is coming to an end. The supply of labour is not growing sufficiently to meet demand, leading to higher and higher increases in wage rates in China.

A study by Euromonitor shows that manufacturing wages in China have risen substantially over the past decade, and are now close to the hourly rates of high-income countries such as Greece and Portugal, according to the Financial Times. However, GDP per capita in China is still less than half of Greek and Portuguese levels. Average hourly manufacturing wages increased by three times to $3.60 between 2005 and 2016, making Chinese labour more expensive than that of other middle-income economies such as Brazil, Argentina and Mexico, according to the study. Manufacturing wage increases accompanied rises in the overall average wage in China, which more than doubled to $3.30 per hour during the same period.

High productivity growth in China has also contributed to wage increases. However, wage growth had been relatively slow until recent years given the large amount of rural labour ready to move into the cities and take factory jobs. It is reasonable to predict that, since exports have become more technically advanced and the productivity of workers producing these exports is increasing, wage rate increases are likely to continue.

Also, the one-child policy in China has helped to reduce population growth as many families were limited to just one child. In fact, although China abandoned that policy in early 2015 after more than 30 years, new evidence shows little increase in the numbers of children born, leading the government to consider additional measures to boost birth rates.

Source: Gao, Jack, China's Wage Growth: How Fast Is the Gain and What Does It Mean?, © 2017, Used with permission from Institute for New Economic Thinking

**1** Which one of the following helps to explain why low wage rates were paid in China before 2013? **(1 mark)**

(a) The supply of labour increased as people left agricultural jobs and moved to the cities.
(b) The supply of labour decreased due to the lower birth rate in China.
(c) The demand for labour increased as there was more investment in factories in China.
(d) The demand for labour in agriculture increased as more workers were needed on farms to produce food for the growing population.

**2** Which one of the following might cause wage rates in China to increase? **(1 mark)**

(a) The size of the population increases
(b) Productivity levels increase
(c) Many manufacturers relocate their factories from China to lower-wage countries
(d) Increased use of robots reduces demand for labour in factories

**3** Analyse, using a demand and supply for labour diagram, why manufacturing workers had an increase in their wage rates over the period 2005–2016. **(6 marks)**

**4** Evaluate whether large wage increases for manufacturing workers in China are likely to continue. **(20 marks)**

### EXAM HINT

In Question 4, build on your answer to Question 3 to explore how the forces underlying the demand for and supply of labour in manufacturing might change over the next ten years. A good source of evaluation is to question the probabilities of events happening. For example, what is the probability that manufacturers will open new plants in lower-wage economies such as Mexico, Brazil or Argentina? Will there be labour shortages in China as the supply of labour from rural areas reduces? Pointing out information you don't have but that would be relevant to your answer can also form part of your evaluation.

# 18 MARKET FAILURE IN THE LABOUR MARKET

UNIT 3
3.3.4

## LEARNING OBJECTIVES

- Understand the causes and consequences of the geographical immobility of labour
- Understand the causes and consequences of the occupational immobility of labour

## GETTING STARTED

Why are there unemployed people in some areas of a country while there are job vacancies elsewhere? Why can some firms not fill vacancies when there are unemployed people in the area?

## THE MOBILITY OF LABOUR

In a perfect labour market, there are no barriers to the supply of labour to any region or any occupation. Workers can move freely from one job to another in different regions and in different occupations. In the real world, there are a wide variety of barriers to mobility of labour causing market failure. Labour can be highly immobile, unable to move from job to job despite high unemployment.

LINK Student Book 1, Chapter 39

There are two types of immobility of labour as outlined below:

- geographical immobility of labour
- occupational immobility of labour.

## CAUSES OF GEOGRAPHICAL IMMOBILITY OF LABOUR

**Geographical immobility** is when workers find it difficult to move from one area, region or country to another. One reason for geographical immobility is search costs. For example, unemployed workers in Detroit might find it difficult to find a job in New York. They may not be aware of what jobs are available in New York. They might only be able to find out by visiting New York at high cost to themselves.

Even if they could get a job in New York, they may not wish to leave friends and family who provide a support network, for example help with bringing up children or support for elderly parents. Many workers are unwilling to leave their geographical area because they feel they have strong roots there, for example they are part of the community for social activities or sports clubs or members of the local religious community.

Housing can also be a major cause of geographical immobility. Workers who rent their accommodation may not be able to find a new house at a similar rent if they move elsewhere. Rented accommodation in areas where there are many job vacancies may be much more expensive or unsuitable. If workers own their own home, houses in the area they wish to move to may be much more expensive. High house prices in New York, for example, are a major barrier to mobility into these regions. Selling and buying a house is also a major cost in itself. On the whole, the lower the income of an individual, the greater is housing as a barrier to mobility.

Moving to another country to find work can be difficult due to such barriers as legal restrictions, language or recognition of qualifications in other countries.

## CONSEQUENCES OF GEOGRAPHICAL IMMOBILITY OF LABOUR

There will be differences in wage rates, as higher wage rates will be paid in areas where there are unfilled job vacancies and lower wage rates in the areas of high unemployment. These wage differences should, in terms of economic theory, mean that workers are attracted to the areas offering high wage rates, leading to the problem reducing, and workers leaving the area of lower wage rates, leading to these wage rates rising. However, the immobility of labour means these wage rate differences remain. Market signals are not working, leading to market failure.

Increasing differences in house prices between different areas or regions will make geographical immobility worse. Prices to rent or buy accommodation will be much higher in areas where there is a lack of workers and much lower in areas of high unemployment. This will cause higher barriers to mobility of labour making it less likely workers will move.

Firms will not be able to expand or fulfil contracts as they planned due to unfilled job vacancies. This will lead to firms either considering moving or not carrying out the planned expansion, leading to output being lower than would have been the case.

Unemployment is much higher in some areas, regions or countries than others. The unemployed are also likely to remain unemployed for long periods of time, often years. Unemployment as a result of industries closing in an area where they were previously concentrated is called **structural unemployment** (see Student Book 1, Chapter 25). This is a waste of economic resources, as workers who are willing and able to work remain unemployed. Potential output is lost from the economy. Government support for the unemployed will be higher in these areas and lower tax revenue will be collected.

There will also be an impact on individuals and families as the standard of living will be lower in areas of high unemployment and this will affect other businesses in the area as demand for goods and services will be lower.

### ACTIVITY 1

SKILLS COMMUNICATION, ANALYSIS, DECISION MAKING

**CASE STUDY: WORKING ABROAD**

Choose a country to which you might like to move in order to find work. Research the barriers there are to you moving there.

## CAUSES OF OCCUPATIONAL IMMOBILITY OF LABOUR

**Occupational immobility** is when workers find it difficult to transfer from one occupation to another, such as a teacher becoming an accountant. Some jobs require only general work skills. So most workers could become office cleaners or car park security guards and it is relatively easy to move from one occupation to another. However, many jobs require particular knowledge, talents, skills and qualifications. Teachers, doctors and judges only get their jobs after years of education and training.

In the short term, it is very difficult for workers to transfer from one occupation to another and in many cases it is impossible. A lack of natural talent will mean that, for example, some workers will never be capable of training to be a surgeon or have the skills to become an artist.

It takes time and money to become more educated and train for particular occupations. It can take many years to build up the knowledge, skills and experience to become an electrician or computer programmer. Some people will not be able to afford to train for an alternative occupation, particularly if they have just lost their job or have families to support.

A lack of knowledge of education and training opportunities may also be the cause of some people not moving from one occupation to another.

In the longer term, it becomes more possible although the cost for the individual may be very high and may make it difficult to change occupations.

## CONSEQUENCES OF OCCUPATIONAL IMMOBILITY OF LABOUR

Many of the consequences of occupational immobility are similar to those of geographical immobility.

Firms will not be able to expand or fulfil contracts as they planned due to unfilled job vacancies. There will be lower output in the economy than would be expected based on the economic resources available to the economy. This results in a waste of resources and market failure.

Unemployment is much higher in some occupations than others. People who lose their jobs in particular industries and are structurally unemployed may not have the skills and qualifications required for job vacancies. They will often remain unemployed for long periods of time unless they retrain or take a job that requires a lower level of skill than they are capable of. This is called underemployment. Either way, this is

a waste of economic resources, as workers who are willing and able to work remain unemployed or are employed in jobs where their skills are not fully used. Potential output is lost from the economy.

Wage rates may also be distorted. Occupations where there are skill shortages may have higher wages than if they were in equilibrium and occupations where there is surplus labour will have lower wages. Again these wage differences should correct themselves but because of occupational immobility the market failure remains.

## ACTIVITY 2

SKILLS REASONING

### CASE STUDY: CHANGING OCCUPATIONS

You are a fully qualified print worker in a newspaper firm. The number of newspapers being sold in your country is falling and some of the workforce is going to be made redundant. Research how you could change occupations and train to become qualified in an alternative occupation of your choice. What qualifications and training will you need? How long will it take you to train? Look into the possible barriers or difficulties for you changing occupations.

## THINKING LIKE AN ECONOMIST

### ROBOT FACTORIES COULD THREATEN JOBS OF MILLIONS OF GARMENT WORKERS

Occupational immobility occurs when workers in particular occupations that are in lower demand find it difficult to move to alternative occupations when they lose their jobs. If workers cannot easily transfer their skills to alternative employment, they might be unemployed for long periods of time. In Cambodia and Vietnam, nearly 90 per cent of garment and footwear workers are at risk of unemployment caused by automated assembly lines according to the International Labour Organisation (ILO).

Millions of people, mostly young women, are dependent upon jobs in clothing in the South East Asian region, including Cambodia, Indonesia, Thailand and Malaysia. These are the workers the ILO identifies as most at risk of losing their jobs to automation.

Automated production lines are likely to be installed in factories near to main consumer markets, such as Europe and the US, rather than in Asian countries. This may lead to long-term unemployment for millions of garment and footwear workers if the governments in these Asian economies do not develop alternative industries for these workers to transfer to. The governments also need to take action to help workers become skilled in alternative occupations.

## CHECKPOINT

1 What are the causes of geographical immobility of labour?

2 What are the consequences of geographical immobility of labour?

3 What are the causes of occupational immobility of labour?

4 What are the consequences of occupational immobility of labour?

## SUBJECT VOCABULARY

**geographical immobility** when workers find it difficult to move from one area to another

**occupational immobility** when workers find it difficult to transfer from one occupation to another

**structural unemployment** when the pattern of demand and production changes, leaving workers unemployed in labour markets where demand has shrunk

# EXAM PRACTICE

## NURSE SHORTAGES

SKILLS REASONING, ANALYSIS, CRITICAL THINKING, COMMUNICATION

The UK's National Health Service (NHS) has a deepening shortage of nurses. This means that in some areas hospitals are only able to recruit one nurse for every 400 vacancies they have, new NHS figures reveal. Hospitals in the London area managed to fill just five of the 1,957 vacancies for nurses that they advertised between April and June 2018 – a success rate of 0.25 per cent – according to the latest official NHS vacancy statistics. The Royal College of Nursing expressed its alarm at how the number of such vacancies had revealed 'an NHS desperately short of nurses'. Across England as a whole, only one in seven of all empty nursing posts was filled.

'The next generation of British nurses has been deterred by record work pressures, lack of funding and poor pay for staff. It has never been busier but the NHS in England is losing experienced nurses quicker than it can find new ones. Earlier cuts to training places have made the problem worse,' an NHS spokesperson said. The high cost of living in the London area, especially housing, as well as disappointment that NHS wage rates have not been increased for the past seven years are thought to be key factors in the worrying trend.

A similar problem has been identified by the US Bureau of Labor Statistics which estimates that by 2024 there will be over a million vacancies for registered nurses. This is partly due to the growing demand for nurses as a result of the aging population and the advances in treatments available but also due to a serious shortage of faculty and clinical placements in nursing schools in the US. Each year around 50,000 prospective nurse students are turned away. Today's nursing programmes need growing financial support just to survive.

Malaysia is also said to be facing a nursing shortage by 2020 because of a growing demand for nurses due to the aging population and the increase in nurses moving to other countries where wages and work prospects look more appealing, or simply

leaving nursing. To add to the problem the number of students beginning their studies at nursing colleges is slowing. With the World Health Organization's (WHO) recommended nurse-to-population ratio of 1:200, Malaysia would need 130,000 nurses in all specialisations by 2020, according to Universiti Tunku Abdul Rahman (UTAR)'s lecturer in nursing, Sheela Devi S. To reduce the problem in Malaysia, nurses from the Philippines, Pakistan, Myanmar, India and Albania have been hired. However, although the quota for foreign nurses is filled, the staff shortage remains.

Q

1 Define occupational immobility of labour. **(2 marks)**

2 Explain two factors that cause occupational immobility of labour. **(4 marks)**

3 Examine the impact on the provision of health services from a shortage of nurses. **(6 marks)**

4 Evaluate the extent to which an increase in nurses' pay would reduce the problem of staff shortages. **(20 marks)**

# GOVERNMENT INTERVENTION

The final part of Unit 3 looks at the reasons for government intervention, firstly in product markets and then in labour markets. It examines how governments can try to control monopolies and mergers as well as promote competition and contestability in markets. Suppliers and employees may also need protection from dominant firms in a market and the measures governments can use for this protection are discussed. The section then considers the impact and effectiveness of these government measures on product markets. Finally, types of government intervention in labour markets and their effects on reducing labour market failure complete the section.

# 19 GOVERNMENT INTERVENTION IN PRODUCT MARKETS

UNIT 3
3.3.5

## LEARNING OBJECTIVES

- Understand why governments intervene in product markets
- Understand the different measures that governments can use to control monopolies and mergers, including price regulation, profit regulation, quality standards, performance targets, referral to regulatory authorities and legislation to control mergers and takeovers
- Understand the measures that governments can use to promote competition and contestability, including tax incentives and grants to promote small businesses and FDI, deregulation, privatisation, competitive tendering for public sector contracts and trade liberalisation
- Understand the different measures governments can use to protect suppliers and employees, including local sourcing of raw materials and components, employment legislation to protect workers from exploitation, barriers to entry of foreign firms, restrictions on the monopsony power of firms and nationalisation
- Understand the impact of the measures listed above on price, profit, efficiency, quality and choice
- Understand the limits of government intervention, including regulatory capture, asymmetric information/information gaps, inadequate resources and lack of regulatory power

## GETTING STARTED

Every year, households in many countries receive a bill from their local water company to pay for water and waste-water treatment. The water company is usually a monopoly supplier – households do not get any choice about the company from which they buy these services.

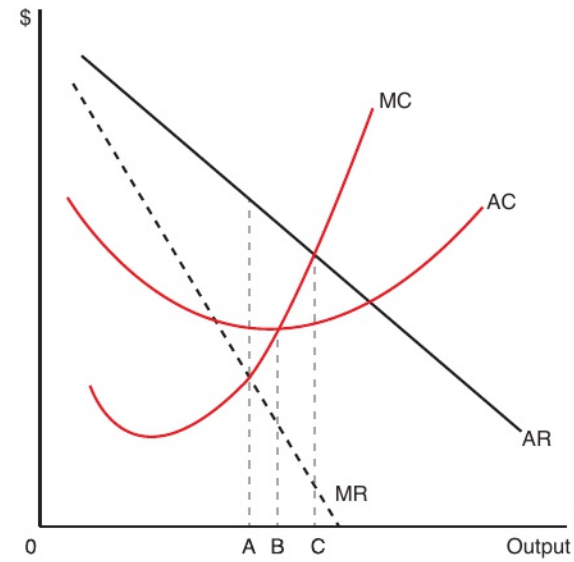
Governments often regulate water companies. If there was no regulation, how might water companies behave economically? If there is regulation, how can governments regulate private sector water companies, particularly as it needs them to provide this vital service to households?

## THE CASE FOR GOVERNMENT INTERVENTION

Figure 1 shows the cost and revenue curves of a monopolist. A profit maximising monopolist would produce at output 0A. This is neither productively efficient nor allocatively efficient. Productive efficiency would be achieved at output 0B, where the firm is producing at the bottom of its average cost curve. Allocative efficiency would be achieved at output 0C, where price = marginal cost. Profit maximising monopolists earn supernormal profit at the expense of their customers, reducing consumer surplus and gaining some of it as increased producer surplus. Producing below the allocatively efficient level of output also produces a **deadweight welfare loss**.

**FIGURE 1**

**A monopoly**
A profit maximising monopolist would produce at output 0A. But this is below the productively efficient level of output of 0B and the allocatively efficient level of output of 0C.



It can therefore be argued that governments should control monopolies or firms that have significant monopoly power. There are a variety of different possible ways in which this could be done.

LINK Student Book 1, Chapter 39

## MEASURES TO CONTROL MONOPOLIES AND MERGERS

### PRICE REGULATION

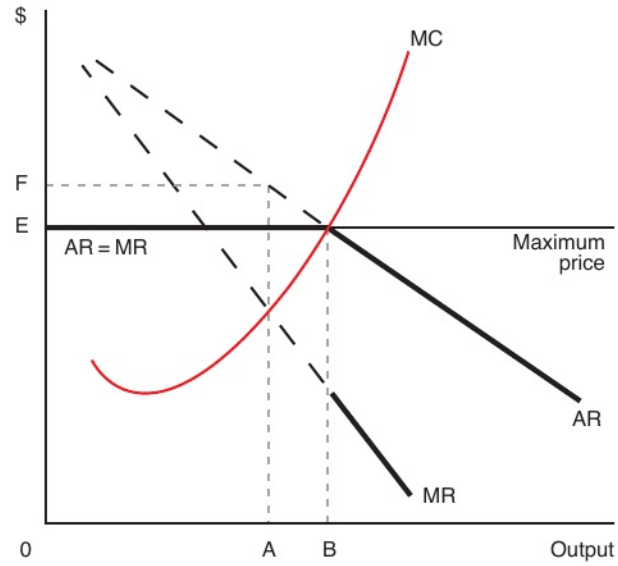
One method would be to introduce price controls. The maximum price that a monopolist could charge would be set equal to the marginal social cost of production. Thus there would be allocative efficiency in the market (P = MC). The effect of price controls is shown in Figure 2. Without price controls, the monopolist faces a normal downward sloping demand (= average revenue) curve and a normal downward sloping marginal revenue curve. Its profit maximising level of output is 0A and its profit maximising price is 0F. There is allocative efficiency if the price is 0E which is where P = MC. So 0E is the maximum price that the government must impose on the monopolist to ensure there is allocative efficiency in the market. At output levels from 0 to B, the average revenue curve, which is the price curve, becomes horizontal. The marginal revenue curve between 0 and B is the same as the average revenue curve because each additional unit sold is sold at the same maximum price of 0E. The monopolist can sell more than 0B but then the price it receives will fall because the demand curve is downward sloping. There is a break in the marginal revenue curve at output 0B because selling an additional unit of output means that all output of 0B plus the extra unit will have to be sold at a lower price. Hence the marginal revenue of the 0B plus one unit is much lower than the marginal revenue of the 0Bth unit sold at the maximum price.

However, it can be argued that it is difficult for a government to know where the cost and revenue curves lie and what is the allocatively efficient level of output. Price controls can also lead to dynamic inefficiency. If the monopolist is prepared to increase investment if they are allowed to operate at the profit maximising level of output, then future output might be higher or be at a lower price if investment increases future productive efficiency.

**FIGURE 2**

**Price controls in a monopoly industry**

Fixing a maximum price for a monopolist makes the average and marginal revenue curves horizontal for part of these curves. It results in higher output at 0B and a lower price of 0E compared to the profit maximising outcomes, of 0A and 0F respectively.




### PROFIT REGULATION

Another method of controlling monopolists is to fix a maximum level of profit that they can earn. The government should set a level of profit such that the monopolist makes no more profit than if the industry was perfectly competitive. In practice, this is done by calculating what the operating costs of the monopolist should be and adding a rate of return (or rate of profit) on capital employed.

Rate of return regulation has been widely used in the USA to control utility companies such as electricity and water companies. However, there are a number of problems with this approach.

- It requires regulators to have a good understanding of costs and rates of return in the industry. The monopolist has an incentive to predict to regulators that future costs will be higher. The monopolist therefore attempts to create a situation where there is asymmetric information: the monopolist has more information than the regulator. If the regulator accepts industry forecasts, then the monopolist will be allowed to earn more profit than it would if it had accurately predicted costs.
- Monopolists have little incentive to minimise costs. If they are allowed to cover their costs and earn a profit on capital employed, then it doesn't matter to the monopolist whether costs are $100 million or $110 million. The costs will be covered by the customer.
- Monopolists have an incentive to employ too much capital. If they are being awarded a percentage rate of return on capital, the more capital employed, the

higher the amount of profit earned. For example, if the monopolist is allowed to earn a 10% return on capital employed, it will earn twice the profit if it has capital employed of $2 billion than if it has only $1 billion employed.

## QUALITY STANDARDS

A profit maximising monopolist is focused on profit and not quality. Monopolists that provide high-quality products only do so because this allows them to maximise profits. If the way to maximise profits is to produce poor-quality products, then the customer will receive poor-quality products. Where quality is an issue, governments can intervene by setting quality standards. For example, postal services may have a legal obligation to deliver letters on a daily basis to rural areas despite the fact that deliveries to rural areas are loss making. Electricity producers may be forced to have enough capacity to prevent power cuts occurring.

It is in any monopolist's interests to resist the imposition of quality standards. One way for them to do this is to suggest self-regulation. Another is to argue that they will be providing products with quality standards in the future and so regulation now is unnecessary. Governments need to have both political will and an understanding of the industry to impose meaningful quality standards on a monopolist that is only interested in making profit.

## PERFORMANCE TARGETS

Performance targets are similar to quality standards. The government sets targets for a variety of different outputs from a firm. This could be about prices charged, the quality of the product, degrees of customer choice or costs of production. For example, train companies could be given targets for the percentage of trains that arrive on time, while water companies could be given maximum targets for the volume of water leaked from the water supply. Monopolists will resist the imposition of performance targets, especially if not meeting them results in bad publicity and regulatory fines. Where performance targets are imposed, monopolists will attempt to find ways to get around them. For example, one way of increasing the percentage of trains arriving on time is to change the train timetable so that train journeys become officially longer. If the target doesn't cover intermediate stations on a journey but only the start and finish stations, train companies can increase the journey time just for the last part of a journey. Adding five minutes to travel time between the last two stations on a journey might significantly improve the number of trains reported as on-time, even if trains are frequently late arriving at the other stations on the journey. As with quality standards, it requires considerable political will and understanding of the industry to successfully impose performance targets. Performance targets might also have to be changed frequently as monopolists find ways to meet performance targets without improving the quality of the product provided.

## REFERRAL TO REGULATORY AUTHORITIES

In many countries there are laws that allow a monopoly to be investigated by the government or state authorities if it is thought to be exploiting its consumers or being anticompetitive in its actions. If this is the case, then the company will be investigated and, if it is found guilty of being anticompetitive or charging unfair high prices, the government department or state authorities can make the company change its ways or pay a fine. Companies will not want to be referred to the regulatory authorities as it will cost them money to prepare a case for the authorities and it will give them bad publicity. The referred companies may also be fined if they are found guilty.

## LEGISLATION TO CONTROL MERGERS AND TAKEOVERS

Another way of controlling monopolies is to prevent their creation in the first place. All developed countries now have laws and regulations which cover the mergers and takeovers between two or more firms. Competition authorities will investigate large mergers which will significantly reduce competition in the market, and they have the power to prevent the merger from going ahead. Sometimes the competition authorities will allow a merger on condition that some of the assets of the new combined firm are sold off. The assets sold are those that would have given the new firm too much monopoly power in given markets. Merger policy is designed to prevent merged firms from exploiting their customers by raising prices and reducing choice in the market as a result of less competition in the market.

# MEASURES TO PROMOTE COMPETITION AND CONTESTABILITY

Governments have a range of policies open to them to promote competition and contestability. Making markets more competitive and more contestable is likely to increase efficiency and make it less likely that consumers will be exploited by higher prices and less choice.

LINK Student Book 1, Chapter 39

## ACTIVITY 1

SKILLS REASONING, INTERPRETATION

### CASE STUDY: UTILITY COMPANIES

Utility industries, such as water and electricity, are often a natural monopoly. There may be one major (private) company supplying energy or water in a region or local area. The government will allow this because these suppliers have very large costs in order to produce power or distribute water and it is considered more efficient for there to be a single provider of these services. However, the government monitors the utility companies and carefully regulates what these monopolies can do.

For example, the UK water regulator, Ofwat, protects consumers by restricting price rises by the water companies to less than the rate of inflation. In India, about 46 per cent of electricity in 2018 was generated by private sector businesses. The government wants more investment from the private sector to meet the growing demand for power. Regulators of this industry in India have to balance the need to protect consumers with the need for further private investment.

1 Water companies may be monopoly private sector suppliers of water and waste-water services to households. If these water companies are in private sector ownership, why might they need regulating?
2 Why might electricity companies earn supernormal profit even if their prices are being regulated?

## TAX INCENTIVES AND GRANTS TO PROMOTE SMALL BUSINESSES AND FDI

Governments can attempt to increase the number of small businesses in order to increase competition in the market. For example, the government can give training and grants to potential new entrepreneurs. Governments can also encourage the growth of existing small businesses by giving tax incentives or subsidies. For example, small businesses may pay a lower rate of tax on profits than larger businesses.

Foreign Direct Investment (FDI) is when a firm in one country buys a controlling interest in a firm based in another country. FDI means the best businesses receive funding and expertise to expand and produce goods and services that get to market faster than without FDI, so the businesses will be more competitive. The firms will receive 'best practices' management from the investing firm and can use the latest technology and operational practices to ensure efficiency. In countries such as China and India, there have often been joint ventures between local businesses and foreign firms which have resulted in increased competition, more choice and lower prices for consumers.

## DEREGULATION

**Deregulation** is the process of removing government controls from markets and is a way of removing monopoly power. It is also, therefore, a way of increasing competition in an industry.

- The government may allow private firms to compete in a market that is currently being supplied by a state monopoly. An example of this would be if the government allowed private firms to compete with letter delivery against a state-owned postal service.
- The government may lift regulations that prevent competition between private firms. For instance, the government may limit the number of premises in a local area that can be used for the sale of pharmaceutical drugs. Deregulation could end this licensing system, so any retailer could sell drugs from its premises.
- Deregulation attempts to improve economic efficiency through the promotion of competition. This, it is argued, will lower costs (leading to greater productive efficiency) while reducing prices and increasing output (increasing allocative efficiency). A major problem with deregulation is that it encourages so called 'creaming' of markets (firms only providing services in the most profitable areas of the market).

## PRIVATISATION

**Privatisation** in itself does not necessarily increase competition in a market. For example, a nationalised firm could be privatised as a single firm and legal barriers to entry to the market could remain high. Privatisation will only increase competition if either the nationalised firm is split up into competing firms or if barriers to entry are lowered sufficiently to encourage new entrants into the market. Firms operating in the private sector, if there is increased competition, should lead to lower prices and higher output.

## COMPETITIVE TENDERING FOR PUBLIC SECTOR CONTRACTS

The government has to provide certain goods and services because they are public goods, such as defence, or services which have significant positive externalities in consumption, such as education. However, this does not mean that the state has to

be the producer of all or part of these goods and services. For instance, the state has not made the sheets used in hospitals, or the tanks used in the army. They are produced by private sector firms and sold to the public sector. In theory, a government could **contract out** provision of all goods and services. It could employ private firms to operate everything from roads to hospitals to the army. Contracting out in itself will not necessarily increase competition in a market. If the government contracts out a good or service to the same firm every time, then the firm effectively becomes the monopoly supplier to the government for that good or service. This may occur, for example, where there is only one supplier in a country and the government does not want the contract to go to a foreign company, perhaps for security reasons or because it wants to maintain jobs and incomes in the country. However, it can introduce competition through **competitive tendering** of contracts. This is where the government draws up a specification for the good or service and invites private sector firms to bid for the contract to deliver it. The firm offering the lowest price, subject to quality guarantees, wins the contract.

### TRADE LIBERALISATION

This is the removal or reduction of restrictions or barriers to the free exchange of goods and services between nations. It includes the removal or reduction of tariffs and non-tariff obstacles, such as licensing rules, quotas and other requirements and encourages free trade between counties.

If trade barriers are removed, efficient foreign firms can export to the country and keep prices lower. This will encourage local firms to become more efficient if they are to remain competitive. Local monopolies will therefore no longer be able to charge higher prices as competition has increased and the market will be more contestable. For example, if steel companies in a country are protected by high tariffs on imported steel then goods produced in the country will be at a higher price than they need to be. Trade liberalisation will increase competition and lead to lower prices.

## ACTIVITY 2

SKILLS INTERPRETATION, ANALYSIS, REASONING

### CASE STUDY: MEASURES TO PROMOTE COMPETITION

Carry out research to find out how the government in your country encourages competition. Has your government used any of the measures listed above to promote competition and contestability?

## MEASURES TO PROTECT SUPPLIERS AND EMPLOYEES

### LOCAL SOURCING OF RAW MATERIALS AND COMPONENTS

Governments can force firms to use a minimum amount of raw materials and components that are sourced locally from domestic manufacturers. This is often when a firm is assembling products to be sold in the domestic market. This prevents the firm from using a large amount of imported raw materials or components in the products and therefore protects domestic firms.

### EMPLOYMENT LEGISLATION TO PROTECT WORKERS FROM EXPLOITATION

Employees of firms are at risk of exploitation. Profit maximising firms, for example, wish to pay the lowest possible wage, give as few benefits as possible and spend as little as possible on the working environment. The market itself will provide some protection to employees. Workers can choose not to be employed by firms with a poor reputation on issues such as wages or health and safety. However, it has long been recognised that workers need government protection from employers. This can be achieved in a number of different ways.

- Legal protection is extensive under EU law. This includes legislation on health and safety at work, employment contracts, maximum hours at work, redundancy procedures and the right to belong to a trade union. Firms in Europe can be prosecuted for breaking the law.
- Trade unions give their members significant protection from employers. The role of government is to create a legal framework within which trade unions can operate. For example trade unions helped to improve working conditions and wage rates for workers in South Africa.
- Government can encourage firms to draw up codes of conduct relating to employment practices. As with all voluntary codes of conduct, this is the least successful way of attempting to protect employees.

### BARRIERS TO ENTRY OF FOREIGN FIRMS

Governments can force foreign firms wanting to enter the domestic market to have a percentage of the firm owned by a local person or business. This can be 51 per cent controlling interest by the local person or business or it can be more or less. This stops foreign firms from setting up in the country and making high

profit, which they then send back to their own country. Local business people or firms will benefit from the knowledge gained from working with the foreign firm. They will also gain a share of the profit and this is likely to go back into the domestic economy.

### RESTRICTIONS ON THE MONOPSONY POWER OF FIRMS

Some firms have monopsony powers. They are a significant buyer or perhaps the sole buyer of products from a supplier. This means they have considerable market power to reduce the prices they pay to their supplier. To prevent exploitation of suppliers, governments have a number of possible policies.

- They can pass anti-monopsony laws which make certain practices illegal.
- They can appoint an independent regulator which has powers to force monopsonists to change their buying practices through a code of practice, possibly with the threat of large fines.
- They can encourage monopsonists to regulate themselves, drawing up their own code of practice.

Self-regulation is by far the least successful of these three options. Monopsonists are likely to draw up a code of practice which allows them to continue to exploit their suppliers. Independent regulators are potentially a far better solution. However, to be successful, independent regulators must be genuinely independent: not, for example, run by monopsonist representatives. They must be able to force monopsonists to hand over information about their relations with suppliers. They must also be able to impose large enough fines to deter future misbehaviour.

### NATIONALISATION

It can be argued that private sector monopolies will always damage the interests of their customers because they charge too high prices and produce too little output. **Nationalisation**, taking private assets into state ownership, will solve this problem. A nationalised monopolist will be able to operate for the benefit of customers and not private shareholders. Prices can fall and output can increase. Costs need not rise so long as the government places the right management in charge of the nationalised company. However, critics would argue that due to a lack of competition, inefficiency will become common leading to higher costs and eventually higher prices for consumers. In the UAE there are many state-owned businesses such as Emirates Airlines.

## THE IMPACT OF GOVERNMENT INTERVENTION

Government intervention in product markets is designed to:

- lower prices for customers
- reduce supernormal profits of firms achieved by firms taking consumer surplus and turning it into producer surplus
- increase productive, allocative and dynamic efficiencies
- increase the quality of the product where quality is an issue
- increase customer choice both of supplier and of the product.

Government intervention, in practice, can be limited and ineffective. This is because firms themselves have significant political power. A small business employing a couple of workers is unlikely to be able to influence the policy or practice of government. However, a large firm employing thousands of people could have some influence. Major industries, like the newspaper industry, food manufacturers and the car industry, are likely to be even more powerful compared to a single firm.

- They can try to influence the government or specific elected representatives on issues concerning the industry. For example, they can request meetings with government. They can provide 'information' packs that carry their message. They can set up and pay for pressure groups that attempt to influence government and public opinion. In many countries around the world, firms simply bribe ministers and parliamentary members to pursue policies that are favourable to them. Firms can also attempt to scare governments, for example by threatening to take them to court to get government decisions declared illegal or to gain significant amounts in compensation.
- Some regulators are paid for by the firms they are regulating. This makes the regulator particularly at risk of threats from firms. If cases go against them, the firms can threaten to withdraw from the regulatory scheme. The staff at the regulator could then lose their jobs. So they make decisions that favour the firms. Equally, there are regulators where many of the senior personnel come from the firms they are supposed to be regulating. Inevitably, the regulator then favours firms.

## LIMITS TO GOVERNMENT INTERVENTION

Government intervention is often less effective than is intended. There are a number of problems which limit its effectiveness.

## REGULATORY CAPTURE

**Regulatory capture** is a form of government failure. It occurs when a regulatory agency, created to act in the public interest, is more concerned with the special interests of business or political groups that dominate the industry or sector it is charged with regulating. A government's regulatory agency, which was created in the public interest, ends up advancing the political or commercial concerns of the very people, companies or groups it is supposed to be regulating. Regulators become friendly with the firms they are dealing with and, as a result, become more sympathetic to their viewpoints. This means they are more likely to give generous terms of regulation. For example the financial regulators in America, in the build up to the 2008 credit crisis, became too friendly with large banks and allowed dangerous mortgage lending strategies to occur.

In some countries, this simply means bribing the regulator. In others, such as some European countries, the approach has to be less obvious as bribery is not permitted.

## ASYMMETRIC INFORMATION/INFORMATION GAPS

The regulator may rely on information from the firm, for example about prices, costs or levels of investment. With biased information, the regulator may be generous to firms, for example allowing price increases to fund 'necessary investment'. Releasing the minimum amount of unfavourable information to the regulator is common practice. This results in asymmetric information. The regulator has less information than the firms and so makes decisions which are more favourable to firms than if it had all the relevant information.

Where there are voluntary codes of conduct, firms will write these codes in such a way as to minimise the cost of implementing them. If government puts pressure on firms to make the code more thorough, firms will then put counter pressure on government to get their own way. Firms normally have an advantage in any negotiations with government because of asymmetric information. They are better informed than government about how to minimise the impact of any code to which they agree.

## INADEQUATE RESOURCES

Often, insufficient resources are given to the regulators to investigate and control monopolies or promote competition. For example, in the UK, OFGEM (regulator of the whole gas and electricity industry) has 878 staff. This compares to 24,434 staff in British Gas in 2017, and 22,000 in UK National Grid in 2018.

## LACK OF REGULATORY POWER

If the regulators have limited powers to enforce punishments or fines then the monopolists will carry on their anti-competitive practices. This is especially true if the monopolies will gain more profit from carrying on with the practices than they would lose by paying the fines. They will take no notice of the regulators and therefore this regulation be ineffective.

## THINKING LIKE AN ECONOMIST

### CHINA SETS 5-YEAR TIMELINE TO EASE FOREIGN ACCESS TO MANUFACTURING

Trade liberalisation removes or reduces restrictions on trade or barriers to the free exchange of goods and services between countries. China has had many restrictions in place that has made it difficult for foreign companies to export to and sell in the Chinese market. However, China has recently announced a five-year timetable for easing foreign restrictions into certain manufacturing sectors. Foreign ownership restrictions in electric vehicle ventures, shipping and aircraft manufacturing will be removed by the end of 2018, according to China's state planning agency, the National Development and Reform Commission. Restrictions on commercial vehicles will be removed by 2020. Shareholding restrictions for ownership of passenger vehicle companies, the most sought-after market segment by foreign carmakers, will be removed last, in 2022. All these changes will make it much easier for foreign firms to export to or set up manufacturing operations in China. The Chinese market will become more open to efficient foreign firms and will help ensure quality products are sold at competitive prices to Chinese consumers.

Beijing has also sped up the pace of ownership reforms for China's banking, securities, futures, asset management and insurance sectors. Up until recently there was a maximum ownership of 25 per cent allowed. Yi Gang, governor of the People's Bank of China, said that it would 'within a few months' remove all limits on foreign companies' ownership of local banks as well as permit foreign banks to set up local branches within China, 'treating foreign and local investment in the same way'.

Mr Yi also said China would raise limits on foreign ownership of financial service companies and insurance companies to 51 per cent in 2018, with that cap to be removed entirely after three years. These changes should encourage more foreign banks and financial service companies to set up and increase competition in Chinese financial markets.

## SUBJECT VOCABULARY

**competitive tendering** introducing competition among private sector firms which put in bids for work that has been contracted out by the public sector

**contracting out** getting private sector firms to produce goods and services which are then provided by the state for its citizens

**deadweight welfare loss** the overall loss in welfare which arises after a tariff is imposed

**deregulation** the process of removing government controls from markets

**nationalisation** the transfer of firms or assets from private sector ownership to state ownership; it is the opposite of privatisation

**privatisation** the transfer of organisations or assets from state ownership to private sector ownership; it is the opposite of nationalisation

**regulatory capture** an example of government failure, it occurs when firms in an industry are able to influence to their advantage a regulatory body which is supposed to be regulating their behaviour

## CHECKPOINT

1. Why do governments intervene in product markets?
2. How can governments control monopolies and mergers by using price, profit, quality standards, performance targets, referrals to regulatory authorities, and legislation to control mergers and takeovers?
3. How can governments promote competition and contestability through tax incentives and grants to promote small businesses and trade liberalisation?
4. How can governments promote competition and contestability through deregulation, privatisation and using competitive tendering for public sector contracts?
5. How can governments protect suppliers from monopoly power?
6. How can governments protect employees from monopoly power?
7. What is the impact on price and profit from government intervention in product markets?
8. What is the impact on efficiency, quality and choice from government intervention in product markets?
9. How do regulatory capture and asymmetric information reduce the impact of government intervention?
10. How do inadequate resources and lack of regulatory power reduce the impact of government intervention?

# EXAM PRACTICE

## CONTROLLING MONOPOLY POWER

SKILLS: REASONING, ANALYSIS, CRITICAL THINKING, COMMUNICATION

European regulators have fined Servier of France and several other drug makers $428 million for blocking the introduction of cheaper unbranded competition to an expensive branded medicine. Servier had struck 'pay-for-delay' deals.

In the EU, drugs are only protected by patent for 20 years. After that period, other drug manufacturers can sell copies of the drug, called 'generic' drugs. One way round this is for drug companies to pay other companies not to produce generic versions of the drug once the 20 years have passed.

However, regulators have decided to take a hard line on such deals. 'Servier had a strategy to systematically buy out any competitive threats to make sure that they stayed out of the market,' said Joaquin Almunia, the European competition commissioner.

'Such behaviour is clearly anti-competitive and abusive.' He said that agreements that postponed the entry of cheaper medicines to the market 'directly harm patients, national health systems and taxpayers. Pharmaceutical companies should focus their efforts on innovating and competing rather than attempting to extract extra payments from patients.'

## FTC AND FDA TEAM UP TO FIGHT DRUG MONOPOLIES AND HIGH PRICES

In the US, the collaboration between the US agencies – the Food and Drug Administration (FDA) and the Federal Trade Commission (FTC) – could result in even more scrutiny for brand drug makers as well as the companies who buy the drugs for hospitals and other medical facilities, as prices increase and pharmaceutical companies merge.

The FDA regulates which drugs reach patients' medicine cabinets; the FTC identifies and shuts down anti-competitive behaviour through legal action. Brand drug makers have lots of opportunities to use regulations to help them extend their patent rights or keep a generic product from entering the market. They can change their products slightly, such as changing the packaging, to extend the patents so they can continue to be the sole suppliers of a drug and charge a higher price. A brand drug maker also can refuse to sell samples of its branded drug products to generic makers; the generic maker needs these samples to prove to the FDA that its new version of the drug is just as effective and safe.

The US government agencies have the power to investigate and file lawsuits against companies that use 'unfair methods of competition' under Section 5 of the Federal Trade Commission Act. They can also conduct studies on pharmaceutical patent abuse so they can advise Congress on potential new legislation.

Q

1 Explain how a drug patent can give monopoly power to a drug manufacturer. **(4 marks)**

2 Explain why inadequate resources and lack of regulatory power may limit the effectiveness of government intervention to control monopoly power in the pharmaceutical industry in America. **(4 marks)**

3 Using examples from the data, analyse how firms with monopoly power can exploit customers. **(6 marks)**

4 Using examples from the data and your own economic knowledge, discuss the advantages and disadvantages of different methods of controlling firms with monopoly power. **(14 marks)**

### EXAM HINT

For Question 4, there are many ways that firms with monopoly power can be controlled. If you discuss too many, you will end up with too much description and far too little evaluation. Concentrate on the methods described in the data. Weigh up the possible advantages and disadvantages to customers', supporting your evaluation with evidence from the data and your own economic knowledge.

# 20 GOVERNMENT INTERVENTION IN LABOUR MARKETS

UNIT 3
3.3.5

## LEARNING OBJECTIVES

- Understand why governments intervene in labour markets
- Understand the types of government intervention in labour markets and their effects, including maximum wage controls, minimum wage controls, direct taxes, measures to reduce geographical and occupational immobility of labour and measures to reduce discrimination and exploitation

## GETTING STARTED

An aircraft cleaner in Dubai is paid an average salary of 46,145 AED per year. The pilots earn on average 417,550 AED per year. The pilot is on a permanent contract and cannot fly more than 1000 flying hours a year or 30 flying hours a week (although they do have to be at the departure gate about one hour before they fly). The cleaner may work around 50 to 60 hours a week. Is this both an efficient and fair distribution of income? To answer this, think of five different issues that might be used when coming to a conclusion.

## THE CASE FOR GOVERNMENT INTERVENTION IN LABOUR MARKETS

After direct taxes and benefits, the earnings gap in many countries between the highest and lowest paid earners is reduced. However, both gross earnings and post-tax and benefits earnings show that inequalities in many countries are getting wider over time. These trends give rise to questions about equity: is it fair that the higher the earnings, the larger will be the percentage increase in those earnings over time? It also raises questions about efficiency. Free market economists could argue that these trends are the result of efficient labour markets.

Growing inequalities raise incentives for workers on low incomes to gain the skills to get more highly paid jobs. However, an opposing argument is that inequality reduces economic growth. This is because the incentive to gain skills through education and training is much higher for those expecting to earn high incomes than those on low incomes. For the bottom half of income earners, the rate of return on extra time spent in education and studying, both while in education and at work, might be too low. It may not be worth spending an extra year at college if the expectation is that you will end up in a minimum wage job anyway. If rising wage inequality leads to a significant fall in the rate of improvement in education and skills of the bottom half of the working population, this will act as a drag on economic growth.

Governments intervene in labour markets to reduce inequality and reduce market failure. If labour markets were left to free market forces, market failures due to such factors as the existence of a monopsonist could occur. The government needs to intervene to protect the workers from being exploited or treated unfairly in these situations. Wage rates may be so low that workers would be paid an unfairly low wage. In most economies around the world this is unacceptable and governments or regional authorities set minimum wage rates for workers.

There are many examples of intervention in labour markets and the following examples are the main ones used by governments today.

LINK Student Book 1, Chapter 39

## TYPES OF GOVERNMENT INTERVENTION IN LABOUR MARKETS AND THEIR EFFECTS

### MAXIMUM WAGE CONTROLS

LINK Student Book 1, Chapter 19

Most developed countries set **minimum wages**. However, **maximum wages** are relatively uncommon.

- More recently, some economists have suggested setting a maximum wage for chief executives of companies because their pay has been increasing much faster than that of their workers. Typically, this is set at a ratio of chief executive pay to the pay of the lowest wage rate earner in the company. The call for maximum wages for chief executives has

come because their pay has been increasing much faster than that of their workers.

- Governments can set maximum pay limits for public sector workers in an attempt to keep down public sector spending.

Figure 1 shows the impact of a maximum wage in a competitive market. The market clearing wage rate is $W_1$. The imposition of a maximum wage of $W_{Max}$ leads to excess demand in the market of $Q_1Q_3$. This is because $0Q_3$ is now demanded by employers, while $0Q_1$ is supplied. In terms of chief executives, it could be argued that fewer workers will want to put themselves forward because the rewards for the job do not match the stress and responsibilities of the job. Equally, chief executives may move abroad to take posts in other countries, reducing supply.

However, the impact of a maximum wage depends on relative elasticities of demand and supply. It could be argued that the number of people capable of being chief executives is very small and that their supply is highly wage inelastic. Equally, the demand is very wage inelastic. Companies only need one chief executive so their pay is a relatively small part of total cost even if it increases by 20 or 50 per cent.

Figure 2 shows a situation where the supply curve is perfectly inelastic at $Q_1$ employed and the demand curve is highly inelastic. The vertical part of the supply curve shows that the same number of chief executives are prepared to work whatever the wage rate they receive above $W_{Max}$. The equilibrium wage rate is $W_1$. If a maximum wage of $W_{Max}$ is imposed, there will be excess demand of $Q_1Q_2$. However, this is very small in relation to the number of chief executives employed. In this case, imposing a maximum wage will have almost no effect on the market.

**FIGURE 1**

**Maximum wages**

Setting a maximum wage of $W_{Max}$ below the free market wage of $W_1$ will lead to excess demand for workers. Fewer workers want to work at the lower wage rate while employers want to employ more workers.

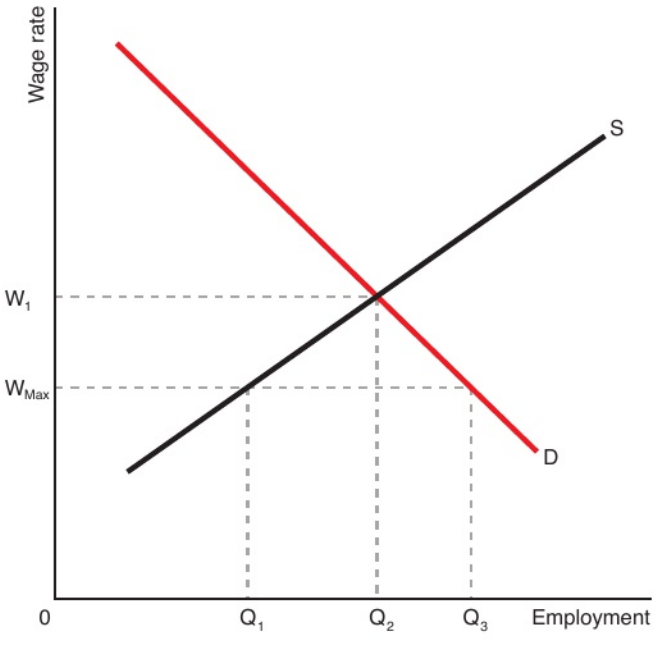
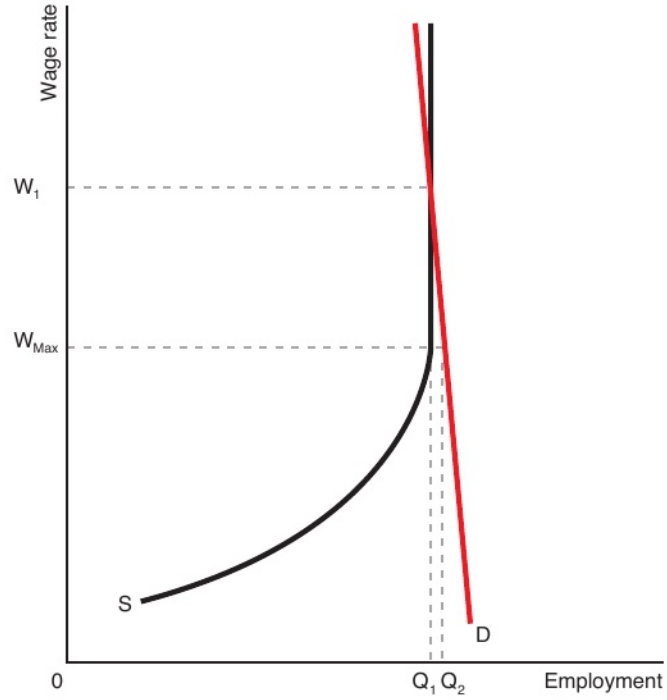



**FIGURE 2**

**Inelastic demand and supply curves with a maximum wage**

The free market wage rate is $W_1$ with $0Q_1$ being demanded and supplied. Setting a maximum wage rate of $W_{Max}$ leads to $0Q_2$ equilibrium employment, barely changing the free market equilibrium employment level.




## MINIMUM WAGE CONTROLS

LINK Student Book 1, Chapter 19

Many workers in the world economy work for very low wages. One way that governments can intervene to raise the wage rates of the lowest earning workers is to impose a minimum wage. Employers then have to pay a minimum wage rate per hour or risk legal and financial penalties. Economic theory suggests that minimum wages will benefit some workers but disadvantage others.

Figure 3 shows the demand and supply curves for labour in an industry. The equilibrium wage rate is OE while the equilibrium level of employment is OB. The government now imposes a minimum wage of OF, forcing industry wage rates to rise. Firms demand AB less labour while BC more workers wish to gain jobs in the industry. The result is AC unemployment.

Existing workers have not necessarily benefited. OA workers have gained higher wages. But AB workers have lost their jobs as a result of the legislation. What is more, the workers who have lost their jobs are likely to be the least employable. Firms will have fired their least productive employees.

Minimum wage legislation can also prevent the market from clearing when there is an increase in unemployment. In Figure 4, $D_1$ and S are the original demand and supply curves respectively. Assume that the minimum wage is set at OF. Then the equilibrium market wage rate is equal to the minimum wage rate and there is no unemployment. Now assume that the economy goes into recession. Demand for the industry's product falls and so the demand for labour in the industry falls (remember, labour is a derived demand). The new demand curve is $D_2$. If the market had been free, wage rates would have fallen to OE and any unemployment due to people moving between jobs would have disappeared. However, with a minimum wage of OF, unemployment of AC is created.

**FIGURE 3**

**Minimum wage legislation**
A minimum wage of OF will result in higher wage rates in the industry. However, AB workers will lose their existing jobs while a total of AC unemployment will be created.

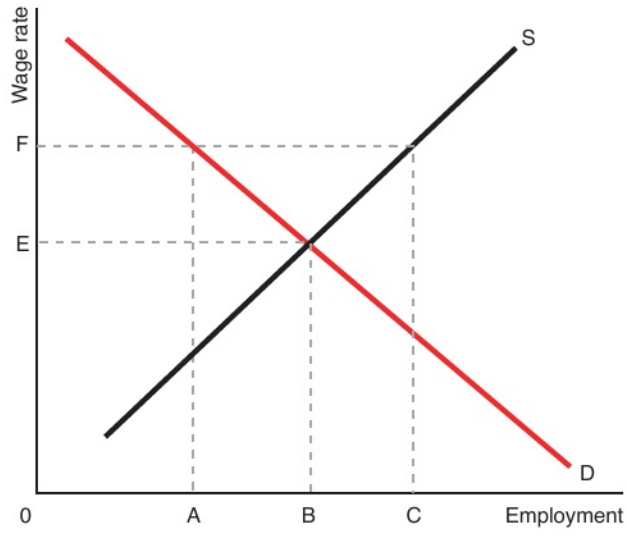
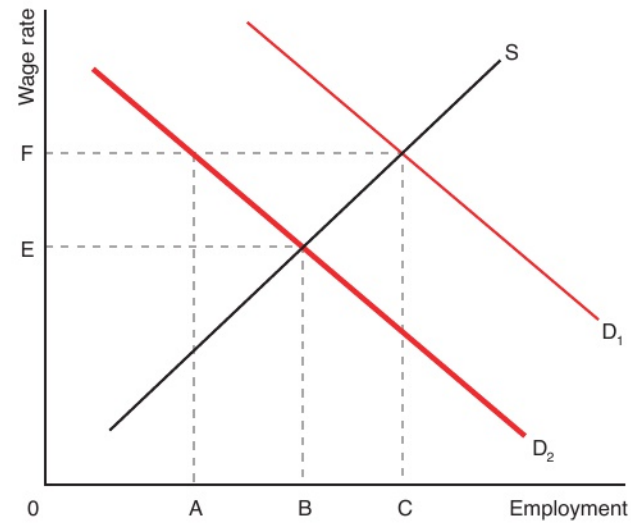



**FIGURE 4**

**Minimum wages can cause unemployment**
A fall in demand for labour from $D_1$ to $D_2$ should lead to a fall in wage rates from OF to OE. However, a minimum wage of OF will prevent this and will cause unemployment of AC to arise.



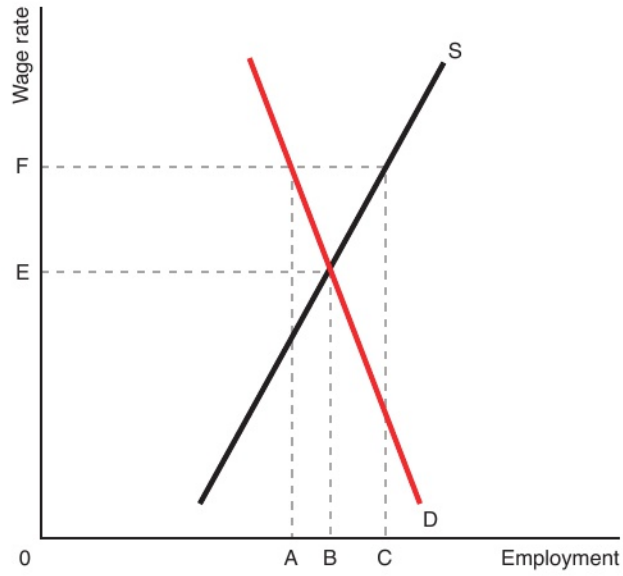

So it is argued that minimum wage legislation can cause unemployment.

The extent to which minimum wages lead to a rise in unemployment depends on three factors.

- The first relates to the difference between the new rights and existing free market rights. For instance, if the market wage rate is $12 per hour and a minimum wage is set at $9 per hour, the minimum wage will have no effect. It won't raise wages in the market or create unemployment. If the minimum wage is set at $9 when market clearing rates are $8.25 per hour, there will be a small increase in average wages but equally it is unlikely that much unemployment will be created. A minimum wage of $18 with market clearing rates of $6 per hour, on the other hand, will give substantial benefits to workers employed but is likely to create substantial unemployment.
- Second, the amount of unemployment created depends on the relative elasticities of demand and supply for labour. Consider Figure 5 and compare it with Figure 3. Both diagrams relate to the introduction of a minimum wage. The market clearing wage is OE and the minimum wage set is OF. Unemployment of AC is created by the introduction of the minimum wage. In Figure 3, the demand and supply curves are relatively elastic between OE and OF. The unemployment created is

**FIGURE 5**

**Inelastic demand and supply curves for labour**
The more inelastic the demand and supply curves for labour, the less unemployment is created when minimum wages are introduced.




large. In Figure 5, the demand and supply curves are relatively inelastic between OE and OF. The unemployment created is relatively small. Indeed if the demand for labour is perfectly inelastic, a rise in wages will have no effect on the demand for labour.

- Third, what is true for a single industry might not be true for the economy as a whole. For instance, minimum wage legislation in the restaurant industry might result in unemployment amongst waiters. However, minimum wage legislation across all industries might have little or no effect on unemployment. In economics, it is not possible to conclude that the economy as a whole will behave in the same way as an individual market.

In the whole economy, minimum wages are more likely to be paid to:

- temporary workers rather than those on permanent contracts
- workers who have been in their post for less than 12 months rather than those who have been with the same employer for more than 12 months
- private sector workers than public sector workers
- workers employed by very small (micro) firms rather than larger firms
- workers in occupations which have low average earnings
- workers in industries where workers on average have low earnings.

## ACTIVITY 1

SKILLS ANALYSIS, INTERPRETATION

### CASE STUDY: MINIMUM WAGE RATE

1 Research whether there is a minimum wage in your country. If there is, is it a national minimum wage or are there different minimum wage rates in different areas of the country?
2 If there are legal minimum wage rates in your country, how much could a worker earn if they work average hours. What standard of living would this allow for the family?

## DIRECT TAXES

A direct tax is collected from the person or business which pays it, rather than a tax on goods or services. An example of a direct tax is income tax. Another direct tax is corporation tax; this is a direct tax because it is paid on the profits of companies, both on profits paid as dividends (i.e. payments to shareholders) and reserves (i.e. profits from a particular period of time not paid to shareholders in that period). Social security tax, in the US, is a tax paid by employees and employers to provide money for unemployed people and for pensions.

Direct taxes such as corporation tax are generally considered to be progressive and a way of raising revenue for the government that will not really harm the firm. However, economists have argued that when higher direct taxes are imposed on a firm's profits, the owners are likely to react by reducing investment, lowering employment in the firm or possibly relocating to a different country or region where corporate taxes are lower.

National Insurance contributions are a direct tax on employing labour in the UK. Both the employer and the employee pay this tax. Payment of these contributions entitles the worker to benefits such as unemployment benefit, sickness benefit paid when the worker has time off from work due to illness, a pension when retired and pay when taking time off to have a baby. This tax is an additional cost to the firm of employing each worker. However, it does give the employee the security of knowing they can get financial help in times of need. This particularly helps low income workers as they are least likely to have savings to help them through difficult times.

In other countries, such as the UAE, Sri Lanka and China, there are similar forms of direct taxes on workers but they have other names: social security contributions in China and the UAE and payments into Employees' Provident Fund (EPF) in Sri Lanka.

## ACTIVITY 2

SKILLS COMMUNICATION, REASONING, ANALYSIS

### CASE STUDY: THE EFFECT OF DIRECT TAXES ON FIRMS

1 Draw a diagram to show the effect of introducing a National Insurance-type payment for each worker employed in a labour market.
2 What effect will this have on employment, consumers and the government?

The impact of this direct tax is to add to the cost of employing each worker and has the same effect as paying the worker a higher wage rate. This is likely to lead to lower employment and possibly higher capital investment, which in turn could also reduce employment.

## MEASURES TO REDUCE GEOGRAPHICAL AND OCCUPATIONAL IMMOBILITY OF LABOUR

LINK Student Book 1, Chapter 39

Labour market immobility occurs when workers are not flexible enough to move from job to job according to the needs of the market. This should be distinguished from geographical immobility, which refers to factors that prevent people moving from one area to another to find work. As a result of labour market immobility, workers might find themselves:

- unemployed when employers are reporting a shortage of workers
- in temporary employment or self-employment when they would prefer to be in full-time employment with an employer
- in a job which fails to use their skills and talents.

Governments can employ a variety of policies to improve labour market flexibility and reduce immobility. These could include:

- improving education and training to increase the functional flexibility of workers, allowing them to move more easily from one type of job to another
- providing specific training for workers to target skills shortages in the economy
- providing subsidies to workers who have to move house to get a job
- providing help with housing for workers who get jobs outside their local area
- increasing knowledge of job opportunities, for example by operating job centres
- subsidising employers who take on unemployed individuals from groups in the labour market who have above average unemployment rates, such as young workers or those with disabilities
- helping workers with job applications, for example by giving them training or paying travel costs for interviews
- reforming the tax and benefits system or increasing the minimum wage to increase the ratio of take home pay in a job to the benefits received from being unemployed
- reducing discrimination in the labour market which reduces the ability of certain groups, such as women, those from ethnic minorities or those with disabilities to gain a job.

## MEASURES TO REDUCE DISCRIMINATION AND EXPLOITATION

**Discrimination** in the labour market by employers occurs when there is an information failure to appreciate one group in society and deliberately undervalue another group. It is not based on any economic grounds i.e. their productive ability. Discrimination is often based on race or ethnicity, gender or age, but can be the result of other discriminatory factors. Governments in the EU have tackled this problem by passing laws that make it illegal to discriminate on these grounds when advertising and recruiting employees, through the treatment of employees in the workplace (for example when promoting employees) and also when dismissing workers. For legislation to be effective it must be enforced. This means employers must make sure they do not discriminate.

In addition to discrimination, workers can also be exploited by being paid very low wages and/or being treated very badly in terms of working conditions or contracts. Exploitation is dealt with through the law and minimum wages also help to stop the exploitation of workers being paid very low wages. However, migrant workers in particular are vulnerable to exploitation. They may be promised high salaries, good working conditions and other benefits but these promises can turn out to be false. For example, there have been claims that foreign construction workers building football stadiums for the world cup in Russia were not paid for months and, in terms of health and safety, had to work in temperatures as cold as –25 degrees without adequate protection or the work contracts required for legal employment.

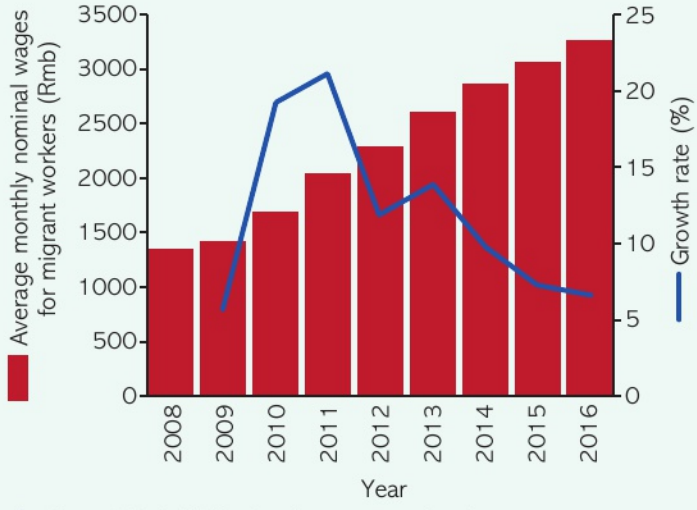
International cooperation is needed to help stop this type of exploitation of workers, as it often starts in the home country of the workers being recruited. There are international organisations that investigate and highlight these illegal practices and inform the governments in the country where it is happening so it can be stopped.

## THINKING LIKE AN ECONOMIST

### CHINA'S MIGRANT WORKERS FEEL PINCH AS BEIJING PULLS BACK ON WAGES

Chinese glass factory employee Wang Wei's income has increased nearly three times in the past decade, as annual wage rises of greater than 10% pushed average salaries beyond those of Latin America. But Mr Wang, part of the country's 280 m-strong migrant rural workforce, has seen that growth slow. 'My monthly income is more or less the same as last year, about Rmb5,000 ($760),' said Mr Wang, 33.

Official statistics suggest that Mr Wang's experience is becoming more common. Average wage growth for 'migrant' workers – whose official residence is in the Chinese countryside but who venture beyond their hometowns and villages for employment – fell below 7% last year as consumer prices rose 2%. Urban workers in China have also seen their wage packets grow more slowly as overall economic growth has declined to its slowest rate in 25 years. But the declines for migrant workers have been more dramatic compared with the rises of more than 20% seen after the 2008 Global Financial Crisis. Then pay was increased by a huge government stimulus programme and an aggressive campaign to boost minimum wages – causing manufacturers to consider relocating production to cheaper countries.




▲ **Figure 6 End of China's migrant wage miracle**
Source: China National Bureau of Statistics © FT

Falling exports in 2015 added to fears that China could lose its competitive edge, ultimately forcing the authorities to reverse course. 'The government was driving the wages up,' said Gerhard Flatz, who manages a clothing factory in the southern province of Guangdong. 'Then when exports slowed down, the government stopped pushing up the minimum wages.'

In 2017, just five regions in China had increased their minimum wages compared to 27 at the same point in 2015. In 2016, the rate of salary increase fell to about 6% on average, from more than 20% in 2011. Chinese government policy change is the most likely factor behind slowing wage growth. Migrant workers typically dominate the low-skilled area of the labour market and their wage levels are mostly determined by the official minimum wage.

Wage growth also started to slow when the effects of a government stimulus programme for housing and infrastructure began to disappear. Manufacturing failed to provide the extra jobs needed, with the official figures showing employment demand shrinking almost every month since 2012. Businesses here aren't really expanding employment. Nowadays, new jobs on offer tend to be in the service sector – nearly 47% of migrant workers in China were employed in the sector last year, up from about 33% in 2011 – but these jobs tend to pay less than manufacturing.

## CHECKPOINT

1. Why do governments intervene in labour markets?
2. What are the arguments for setting maximum wage rates?
3. Draw a diagram to illustrate the impact of setting a maximum wage rate.
4. What are the arguments for setting minimum wage rate?
5. Draw a diagram to illustrate the impact of setting a minimum wage rate.
6. What are the advantages and disadvantages for an economy of having a legal minimum wage?
7. How do direct taxes, such as National Insurance contributions and corporation tax, affect the labour market?
8. What government intervention would help reduce geographical immobility of labour?
9. What government intervention would help reduce occupational immobility of labour?
10. How can governments reduce discrimination and exploitation in the labour market?

## SUBJECT VOCABULARY

**discrimination** occurs in the labour market when there is an information failure leading employers to appreciate one group in society and deliberately undervalue another group

**maximum wage** a legal maximum wage rate per hour or total pay; employers cannot pay a higher amount than this to their workers

**minimum wage** a legal minimum wage rate per hour which employers must pay their workers

# EXAM PRACTICE

## MAXIMUM WAGES

SKILLS REASONING, ANALYSIS, CRITICAL THINKING, COMMUNICATION

From 2020, the UK will require large companies listed on the stock exchange to publish and justify the pay gap between chief executives and their staff, under new legislation presented to the UK parliament in 2018. The law will mean large public and private companies will be required to show how directors take into account the interests of employees as well as investors, and to report on their own arrangements for pay.

All listed companies with more than 250 employees in the UK will have to publish the ratio of chief executives' salaries to their average workers' salaries every year, and will be required to explain the difference. It is argued that high pay for average or poor performance is unacceptable. This legislation can help to develop a better discussion between company boards and their employees about the goals of their business, and how pay is determined to achieve this shared vision.

The new law is part of a push by the government to address public anger over the collapse of two very large UK companies, Carillion and BHS. Very poor decisions made by the directors led to the collapse of these companies, yet the directors were still paid huge amounts of money.

These days, Cuba has a maximum wage law. There have been some moves in this direction in both Egypt and Switzerland, and in Canada too several people feel something needs doing about maximum wage rates. In 2015, the average annual pay package for Canada's top-paid executives was $9.5 million. That is 193 times the average industrial wage in Canada. At this rate, a top executive earns the average annual Canadian wage by 11:47 a.m. on January 3 when the average wage earner will take till December 31 to earn this amount. If the gap is measured against the Canadian minimum wage ($11.18 an hour or $23,256 a year), a top executive would have earned that amount by 2 p.m. January 2.

One professional sport – the U.S.-based National Basketball Association – does however provide an interesting example of a maximum wage. NBA stars like LeBron James and Kevin Durant have their salaries capped at no more than 20 times the salary of the least-well-paid NBA player. If such a ratio was rolled out across the Canadian economy – the 'relative earnings limit' approach to a maximum wage – to cover all executive salaries, the effects would be dramatic. At a minimum wage of $15 an hour (one still resisted by most of the corporate sector) the average executive salary would be a modest $300 an hour. Maybe under such circumstances, the lack of corporate enthusiasm for a higher minimum wage would change quite quickly.

Q

1 Define 'maximum wage control'. **(2 marks)**

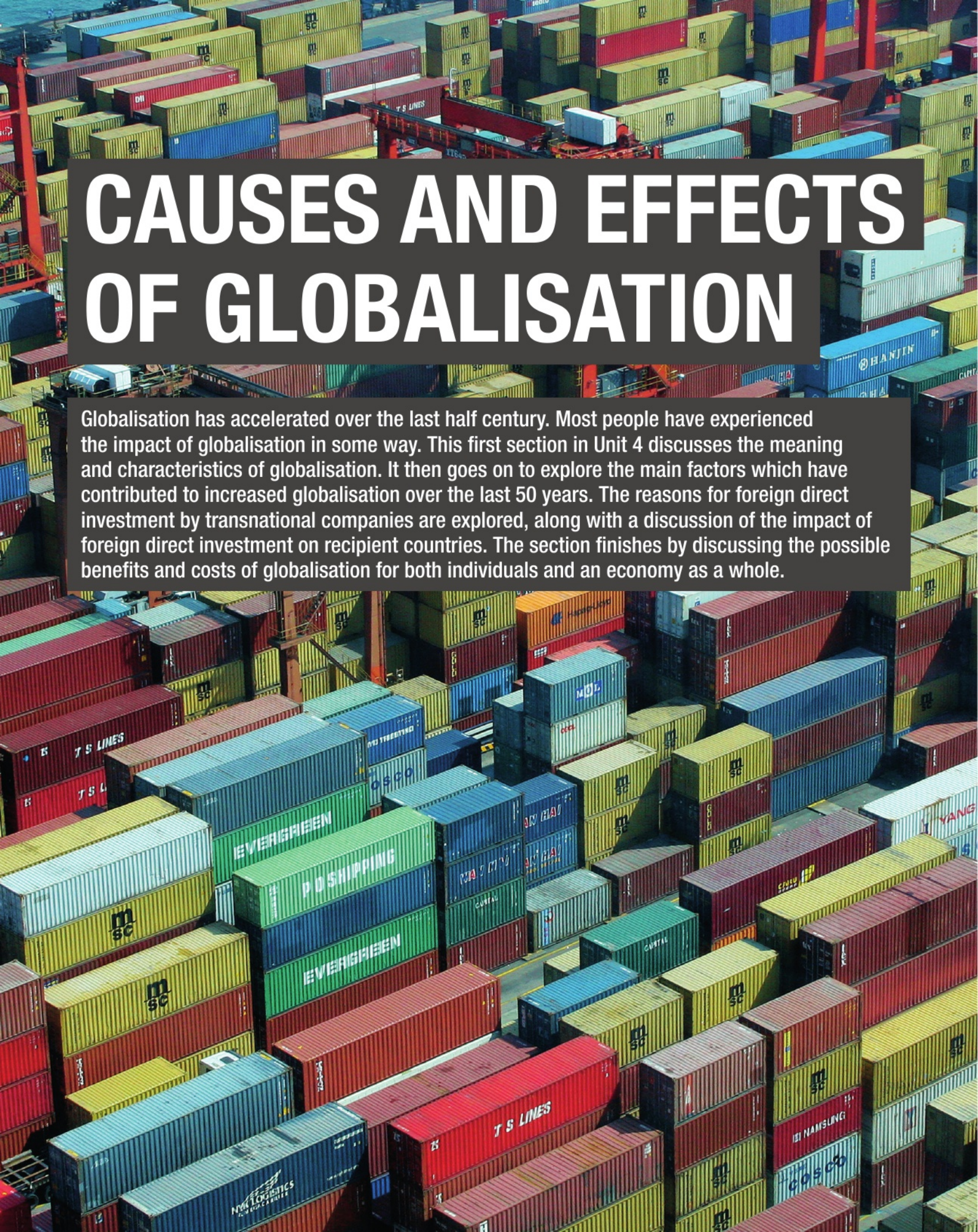
2 If the lowest paid worker in an organisation earns $10,500 per year and the ratio of executive pay to the lowest paid worker is 20:1, calculate the maximum pay for the top executives. **(4 marks)**

3 Using a diagram, analyse the possible effect on pay and employment if the pay of top executives is capped 'at a fixed multiple of their lowest-paid employee'. **(6 marks)**

4 Evaluate the case for introducing legislation to control executive pay. **(20 marks)**

### EXAM HINT

For Question 4, what are the arguments for limiting executive pay? What are the advantages and disadvantages of trying to put a maximum limit on executive pay? How will the competitiveness of a firm be affected if maximum pay is applied to its directors? What might limit the effectiveness of this legislation?



# CAUSES AND EFFECTS OF GLOBALISATION

Globalisation has accelerated over the last half century. Most people have experienced the impact of globalisation in some way. This first section in Unit 4 discusses the meaning and characteristics of globalisation. It then goes on to explore the main factors which have contributed to increased globalisation over the last 50 years. The reasons for foreign direct investment by transnational companies are explored, along with a discussion of the impact of foreign direct investment on recipient countries. The section finishes by discussing the possible benefits and costs of globalisation for both individuals and an economy as a whole.

# 21 CHARACTERISTICS AND CAUSES OF GLOBALISATION

UNIT 4
4.3.1

## LEARNING OBJECTIVES

- Understand the characteristics of globalisation
- Understand the factors contributing to increased globalisation in the last 50 years
- Understand the reasons for foreign direct investment (FDI) by transnational companies (TNCs) and the impact of FDI on recipient countries

## GETTING STARTED

Make a list of 10 items which reflect the ways in which the economy of your country is integrated into the world economy. For example, are there any products around you which were made abroad? Which products were made and distributed by transnational companies? Where has the technology in your mobile phone come from? Do you have relations who live overseas?

## THE CHARACTERISTICS OF GLOBALISATION

From an economic perspective, **globalisation** can be defined as the ever-increasing integration of the world's local, regional and national economies into a single international market. It is the increasing economic interdependence between countries. Globalisation is characterised by several interlinked trends.

### INCREASE IN TRADE AS A PROPORTION OF GDP

Since the 1950s the rate of economic integration between world economies has accelerated. An ever-larger share of world GDP is exported to other countries. Both exports and imports as a percentage of GDP have increased for most economies. There has been a trend for the export share of world GDP to increase over time.

For rich, developed countries, goods are increasingly being manufactured abroad, many for the first time in developing countries such as China and India. This is occurring because developing countries are acquiring the capital equipment and the know-how to produce manufactured goods; there are efficient modes of transport to get goods to markets; and developing countries have a cost advantage in the form of very cheap labour. These goods are then exported to other countries.

Equally, the rapid economic growth in emerging economies has created new markets for goods produced in advanced economies. Trade in services is also growing. For instance, growth in tourism is taking large numbers of visitors abroad. Call centres for customers in developed countries are being located in developing countries. India has become a world leader in writing software and then selling these skills to companies in developed countries.

The rise in the export share of world GDP is also due to supply chains becoming ever more global. For example, China may produce and export a finished good, but intermediate components – often those requiring advanced technology – have often been imported. For example, the iPhone was designed in the USA, but components are assembled around the world in countries such as South Korea. The final assembly is in China and Taiwan.

### INCREASE IN IMPORTANCE OF TRANSNATIONAL COMPANIES (TNCS) AND FOREIGN DIRECT INVESTMENT

**Transnational (or multinational) companies** have grown in number and size. In some industries, such as car manufacturing or the oil industry, this is because only large transnational companies have the economies of scale and technological knowledge to make products that are both cheap and technologically advanced. In other industries, transnational companies, particularly in food and household products, have used highly successful marketing techniques to create global brands. Coca Cola, McDonald's, Magnum ice-creams and Snickers chocolate bars are available across the world.

**Foreign direct investment** is the flow of money between countries where one firm buys or sets up a firm in another country. The opening up of global financial markets, with the removal of **capital controls** in many countries, has made foreign direct investment easier. Many large transnational companies, for example, have set up factories in China. French firms have bought US firms. A company which started in India is now one of the world's largest steel producers after buying a number of steel companies in the developed world. Some states, such as the UAE or Norway, have state investment funds which purchase either stakes in or complete foreign companies.

### INCREASE IN MIGRATION

Increased migration is a characteristic of globalisation. Many migrants are forced to move from their homes because of war or natural disasters. However, many are economic migrants, moving because they think they can enjoy a better standard of living for themselves and for their families in a new country. In an increasing global economy, migration is likely to increase over time. For example, within the EU there is free movement of labour. The EU has increased in size over time, so migration has increased as more countries become members. Migration has also increased between countries who do not necessarily share free movement, where governments set their own entry requirements.

The global increase in migration has happened partly because transport costs have fallen, the quality of education has improved in most countries and incomes have risen. Improvements in human capital mean migrants can often fill skills gaps in other countries. A rise in income means individuals in developing countries have the resources to make a geographical move and meet the costs involved in settling in a new country.

## THE FACTORS CONTRIBUTING TO INCREASED GLOBALISATION OVER THE LAST 50 YEARS

Globalisation is caused by a complex mix of factors, none of which on their own can account for the process of globalisation. Some of the causes of globalisation can be categorised as follows.

LINK Student Book 1, Chapters 5 and 35; Student Book 2, Chapter 6

### TRADE LIBERALISATION

Trade in goods and services has grown, partly because of **trade liberalisation**. In the 1930s, international trade collapsed as the world went into the Great Depression and individual countries misguidedly tried to boost domestic demand by adopting fierce **protectionist** policies. Since 1945, protectionist barriers have gradually fallen, encouraging growth in world trade. The World Trade Organization exists to bring about trade liberalisation: it encourages countries to lower protectionist barriers and thus increase trade between countries. By 2018, there were 164 member countries. Over the last 50 years, average tariff levels as well as non-tariff barriers have fallen.

### INCREASED NUMBER AND SIZE OF TRADING BLOCS

A **trading bloc** is a group of countries that have signed an agreement to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves. This agreement is called a **regional trade agreement**. The number of trading blocs has increased significantly over the last 50 years. Some trading blocs are relatively inactive and do not increase globalisation significantly. However, a few are very active and a significant proportion of export and import flows are between the member countries, rather than the rest of the world. The trading blocs

## ACTIVITY 1

SKILLS ANALYSIS, REASONING, INTERPRETATION

### CASE STUDY: THE UNITED STATES' GROWING INTERDEPENDENCE WITH THE REST OF THE WORLD

Since the 1980s America's economy has gradually opened up to cheap imports. This accelerated in 1993, when President Clinton signed the North American Free Trade Agreement (NAFTA) with Mexico and Canada. This was America's first broad trade agreement to include a poor economy. NAFTA eliminated most tariffs in trade between these three economies.

In 2001, China joined the World Trade Organization (WTO). Although this did not change any tariffs, large amounts of cheap Chinese imports followed. The best explanation for this sudden inflow is that WTO membership gave certainty to investors in China's export industries; until then, America could have imposed higher tariffs on China at any time.

According to the WTO, the United States had 14 regional trade agreements in force in 2018. As well as NAFTA, these included agreements with countries such as Australia, Columbia, Peru, South Korea and Singapore.

1 Using the extract, identify the factors contributing to the USA's growing economic interdependence with other countries.

which have had a significant impact on world trade include the European Union (EU), the North American Free Trade Agreement (NAFTA), the Association of Southeast Asian Nations (ASEAN) and the Union of South American Nations (UNASUR).

### POLITICAL CHANGE

The last 50 years have seen significant political change with the breakdown of the Soviet system and the opening up of China.

Deng Xiaoping's reforms from 1978 moved China away from a closed, centrally planned system towards a more market-based economy. The economy opened up to foreign trade and investment. Entrepreneurs were allowed to set up and many state-owned industries were privatised. In 2001, China joined the World Trade Organization and this had a big impact on globalisation due to the size of its economy and population. Manufacturing jobs shifted towards China because of its cheap labour, and it produced more and more of the world's goods and consumed increasing amounts of the world's raw materials. Due to China's size, it now drives commodity price movements in line with changes in its economic growth. Globalisation has enabled the country to achieve economic growth through an export-led growth strategy. This means it has become very integrated in the world economy.

Another significant impact on globalisation was the breakdown of the Soviet system. In the mid 1980s, the USSR was beginning to move away from a centrally planned economic system. Gradual reforms were taking place, such as allowing competition in business (perestroika) and more freedom in society (glasnost). In 1989, the Berlin Wall collapsed and in 1991 the USSR was dissolved. Since then, Russia and the countries which used to be in the USSR have moved towards a market-based system. Goods and services from the West, which previously had not been allowed, can now be imported. These economies opened up to global international trade. In 2012, Russia joined the World Trade Organization.

### REDUCED COST OF TRANSPORT AND COMMUNICATION

Average transport costs (cost of transport per unit of output) have fallen significantly over the last 50 years. The use of larger planes and ships means firms have been able to gain from economies of scale. Technical efficiencies have also been gained through **containerisation**, which has made it cheaper to transport goods on freight ships, trains and lorries. Standardisation of containers made it easier for cargo to move between ports, as cranes became compatible for lifting all containers on and off ships. Fuel efficiency has also increased, helping to reduce fuel costs. With better transport infrastructure across the world, firms are able to distribute their goods to markets around the world more easily and cheaply.

Developments in communications and information technologies, such as the internet, have shrunk the time needed for economic agents to communicate with each other. This makes it easier for firms to export and import. It also means workers in some industries can be located anywhere around the world, regardless of their employer's or customers' location. For example, in industries such as software production, programmers in one location are able to work effectively for clients based in another country or even continent.

### INCREASED SIGNIFICANCE OF TNCS

A transnational company (TNC), also called a multinational company, has significant product operations in at least two countries. Although they only account for 2 per cent of the world's jobs, TNCs own or are involved in supply chains that account for over 50 per cent of world trade. Many firms went global both vertically, by relocating production and the sourcing of raw materials, and horizontally, by selling into new markets. The growth of TNCs is linked with other causes of globalisation. With international markets opening up, a company may choose to become a TNC so that it can be closer to specific international target markets. A firm may also decide to be a TNC to reduce its average costs. Although a firm could outsource or offshore production to suppliers in other economies, such as developing countries, it may become better to directly set up production operations in those economies. This means average costs can be minimised, while quality and other business aspects are directly managed by the firm. With a global market to target, a transnational company can fully gain from economies of scale and develop global brands. The increase in trading blocs also means a TNC, by locating production abroad, may be able to avoid protectionist measures.

## FOREIGN DIRECT INVESTMENT BY TRANSNATIONAL COMPANIES

### REASONS FOR FDI

There are a number of reasons for FDI by transnationals. Most TNCs will be driven by the opportunity to earn higher profits, gain higher market share and remain price competitive in very competitive business environments.

By setting up business operations overseas, often in cheap labour economies, a TNC can minimise average costs. This desire to minimise costs means FDI is often directed to economies which offer relatively low rates of corporation tax, tax relief and impose low regulation costs on the business. At the same time, workers need to be cheap but have sufficient education to be able to learn necessary skills after training by the transnational. There is often the added incentive of avoiding tariff barriers. Setting up a factory in a trading bloc, such as the EU, means the transnational can export goods to other member countries in the EU without paying any tariffs or dealing with any non-tariff barriers. This further reduces costs and enables firms to target a larger number of consumers. Finally, some FDI is driven by firms seeking access to a source of commodities.

## THE IMPACT OF FDI ON RECIPIENT COUNTRIES

FDI often creates a positive impact on the recipient country, particularly if it is **'greenfield' foreign direct investment**, rather than just a change of ownership through mergers and buy-outs of a company which already existed in the recipient country. Greenfield FDI is when a firm in one country creates a firm in another country from scratch, or extends the production capacity of an existing firm.

Greenfield FDI by transnationals will create jobs wherever they set up operations. This will set off a positive **multiplier effect** and generate economic growth in the recipient country. Transnational companies usually recognise that creating an international employment base leads to greater productivity. Training local workers to take high-level jobs within the company is an investment which strengthens the company. Training given to employees, such as production and management skills, will transfer gradually to the local economy. This raises the level of human capital. Employees leave TNCs to take jobs elsewhere in the economy and sometimes to set up their own businesses. This should increase labour productivity and help to drive increases in real GDP **per capita**. In the case of greenfield FDI, the increase in productive capacity in the economy will also increase potential growth.

FDI is also likely to lead to the transfer of technology and skills to the local economy. For example, a US car component manufacturer may build a manufacturing plant in China. It will almost always import some machinery and equipment from the US. But it will combine that with locally produced investment capital, such as buildings. It will train staff to use the new technology, and these skills are likely to transfer, over time, to other firms in the local economy. The increase in the quality of both human and physical capital will help to increase productivity in China. So greenfield FDI is likely to have a positive impact on the economy's productive capacity. This means FDI might be a good growth and development strategy for developing countries. Extra goods for domestic consumption and for export will also be produced. All this explains why FDI is likely to increase GDP.

The local economy may also benefit if existing local firms can supply goods and services needed by the transnational. For example, local suppliers might gain higher revenue from selling raw material or components to the transnational company. A new factory setting up in a local area may also create a market for new local suppliers to operate in the supply chain. This will generate a larger multiplier effect, on investment and output, in the recipient country. The foreign direct investments which are likely to have the most positive impact are the ones which have the highest productivity gains and the ones which create the most links with local suppliers.

FDI might also create more competition in markets in the recipient country, which has benefits. Local firms will seek to be more efficient and this should help to promote growth, as well as keep prices low for consumers.

For developing countries in particular, FDI might help to build up infrastructure in the economy which benefits all firms and not just the transnational. Governments, in creating incentives for transnationals to locate operations in an economy, will be keen to ensure that power supplies and road networks are developed as much as possible. Tax revenue, paid by the TNC, will also be a valuable source of revenue for a government.

FDI will bring inflows on the financial account of the balance of payments. Any exports sold abroad by the transnational from this business operation will also show up as a credit on the current account. FDI may promote further exports in the future if the spill-over gains, such as higher productivity, make goods and services in the wider economy more internationally competitive.

However, there are potential negative impacts of FDI on recipient countries. It is sometimes criticised for creating only low level jobs for local employees while importing more highly skilled labour from abroad. A French hotel chain in Slovenia, for example, may employ local Slovenian labour for cleaning but always have a French worker as the manager of each hotel.

This means the impact on job creation and improving the quality of human capital is limited. In developing countries, a transnational company will tend to employ those who are relatively skilled in that economy. With relatively high wages offered and the chances of acquiring more skills, the impact of the transnational might be to create more inequality. However, if the multiplier effect is high, there is potential for many to gain indirectly.

If local firms have to compete directly with the transnational company, this is likely to destroy local competition and lead to job losses for local workers. In this case, the overall impact on job creation might be very limited. Domestic firms may also not benefit from technology transfer knowledge if the technology used by the transnational company is protected by patents.

Developing countries accepting FDI may find that foreign companies 'exploit' the local economy by setting lower safety standards or working their labour force longer hours for lower pay than similar operations in a developed country.

The impact on tax revenue might also be limited. Governments have become increasingly aware of the ability of transnational companies to avoid paying taxes on their activities. Some have responded by lowering their tax rates to encourage transnational companies to relocate to their tax jurisdiction. Many TNCs also take part in aggressive tax avoidance schemes, so they end up paying less tax than expected.

Many governments are at risk of bribery and corruption. TNCs have a long history of gaining contracts or control of resources by bribing government officials or politicians. This has been a major problem for many African, South American and Asian countries where corruption can be widespread.

Transnationals, through their FDI, have an impact on the environment. A number of transnational companies dominate world extraction industries, such as oil and

## ACTIVITY 2

SKILLS ANALYSIS, REASONING, INTERPRETATION

### CASE STUDY: FOREIGN DIRECT INVESTMENT IN VIETNAM

Since the early 1990s the Vietnamese government has been very open to international trade and investment. Trade accounts for roughly 150 per cent of national output, more than any other country at its level of per capita GDP. Vietnam is seeing benefits from trade deals. It is set to receive the greatest benefit from the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). In 2015, the EU and Vietnam also approved a free trade agreement and a similar agreement with South Korea came into force in December 2015. This openness to international trade and investment has given foreign companies the confidence to build factories in Vietnam. FDI in Vietnam hit a record high in 2015 and surged again in 2016. Foreign investors are responsible for a quarter of annual capital spending.

A big factor attracting FDI is Vietnam's border with China and the competitive advantage this gives to firms. No other country is closer to the manufacturing heartland of Southern China. As Chinese wages rise, Vietnam becomes the obvious substitute for firms moving to places where production costs are lower, especially if they want to maintain links with China's well stocked supply chains. A relatively young but skilled population also attracts FDI to Vietnam. Public spending on education is about 6.3 per cent of GDP, more than the average for low- and middle-income countries. Saitex, a high-end denim manufacturer, benefits from this, as workers must handle complex machinery to produce the jeans so popular in the West.

Much has been made of Samsung's plans to invest $3 billion in mobile phone production in Vietnam, but domestic suppliers provide it with little except plastic wrappings. Vu Thanh Tu Anh, director of Fulbright Economics teaching Program in Ho Chi Minh City, says the government needs to help build up supply chains, for example by training companies in textile production to support the clothing sector.

1 Identify the reasons why Vietnam has attracted foreign direct investment from TNCs.
2 What are the possible benefits of foreign direct investment for the Vietnamese economy? Give examples from the passage.
3 What might limit the potential benefits of foreign direct investment for Vietnam?

gold mining. These industries can be particularly destructive of the environment. Other TNCs, such as motor manufacturers and even service companies, have been accused of destroying the environment, for instance by the way in which they source their raw materials. However, transnational companies often have better environmental records than smaller national companies. They not only have the financial resources to be able to minimise their impact on the environment, they also have the technical knowledge and ability to innovate, which can lead to minimisation of environmental problems.

FDI inflows are likely to lead to profit outflows back to the parent company abroad. This is particularly true for FDI driven by mergers and acquisitions, where the objective is to maximise profits for shareholders. The developing country will have to allow the profits to be sent overseas, the equivalent of debt interest. However, the profit rates on capital are typically lower than interest rates on borrowed funds, so FDI investments are a relatively cheap way of acquiring investment capital. What is more, if the investment is relatively unsuccessful, there will be no profit to be repatriated to another country.

A developing country accepting FDI flows will lose some of its power to govern itself. It will become dependent to some extent on the activities of foreign firms. However, this is no different from FDI flows between individual countries in the developed world.

## CHECKPOINT

1 What is meant by globalisation?

2 What are the characteristics of globalisation?

3 What factors have contributed to increased globalisation over the last 50 years?

4 Why have transport costs fallen over the last 50 years?

5 What is meant by trade liberalisation?

6 State three reasons for FDI by a transnational company.

7 What might be the positive impacts of FDI on a recipient country?

8 What might be the negative impacts of FDI on a recipient country?

It is also true that a transnational company might, as costs or market conditions change, suddenly relocate a business operation to another country. This can be a problem for a recipient country which has come to rely on FDI inflows as a means of achieving economic growth.

With FDI that is driven only by mergers and acquisitions, little might change in the recipient country, other than who owns the company. Here, the inflow of capital may simply push up the value of the exchange rate with little other effect. This will make it harder for firms in the recipient country to be price competitive in international markets, although import costs will fall.

## SUBJECT VOCABULARY

**capital controls** intervention by governments to prevent capital flight

**containerisation** the use of containers, with standardised dimensions, in the transport of goods

**foreign direct investment (FDI)** flows of money between countries where one firm buys or sets up another firm in another country

**globalisation** from an economic perspective, the ever-increasing integration of the world's local, regional and national economies into a single international market

**greenfield foreign direct investment** when a firm in one country creates a firm in another country from scratch, or extends the production capacity of an existing firm

**multiplier effect** the increase in final income arising from any new injection of spending

**per capita** per individual in a population

**protectionism** government actions or policies that restrict international trade

**regional trade agreement** an agreement between at least two countries to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves

**trade liberalisation** the move towards greater free trade through the removal of protectionist barriers to trade

**trading bloc** a group of countries that have signed an agreement to reduce or eliminate tariffs, quotas and other protectionist barriers

**transnational/multinational company** or **transnational/multinational corporation** a company with significant product operations in at least two countries

## THINKING LIKE AN ECONOMIST

# CHALLENGES FACING TNCS IN CHINA

For three decades from 1980, China's economy grew at around 10 per cent per year. It went from being a poor, relatively undeveloped country economically, to being the world's largest economy at PPP exchange rates in 2014.

Gerhard Flatz, general manager of an Austrian factory in Heshan in China that makes high-end skiwear for European brands, is a victim of this success story. He cannot find enough skilled seamstresses (sewing workers) for his factory even though top performers can earn $1500 a month, about eight times the local minimum wage. Heshan is just one of many cities in the Pearl River Delta, part of the province of Guangdong, that has transformed this area into the factory of the world.

The Pearl River Delta has a population of 56 million and produces everything from bicycles to jeans to iPads. Another city in the Pearl River Delta is Dongguan. Its factories alone made about 30 per cent of the toys delivered over Christmas round the world, 20 per cent of the sweaters and 10 per cent of the running shoes worn by consumers.

However, the local economy is coming under strain from the very prosperity it has created. Workers are harder to find, wages are rising rapidly, and raw material and land prices are going up. The obvious challenge to the region is labour costs. Roger Lee, chief executive of TALK, a Hong Kong company with 11 factories in Asia that produce clothes for dozens of global brands, says wages have doubled over the past five years. In 2008, its Dongguan factories made clothes at half the cost of its facilities in Malaysia and Thailand but that gap has since disappeared.

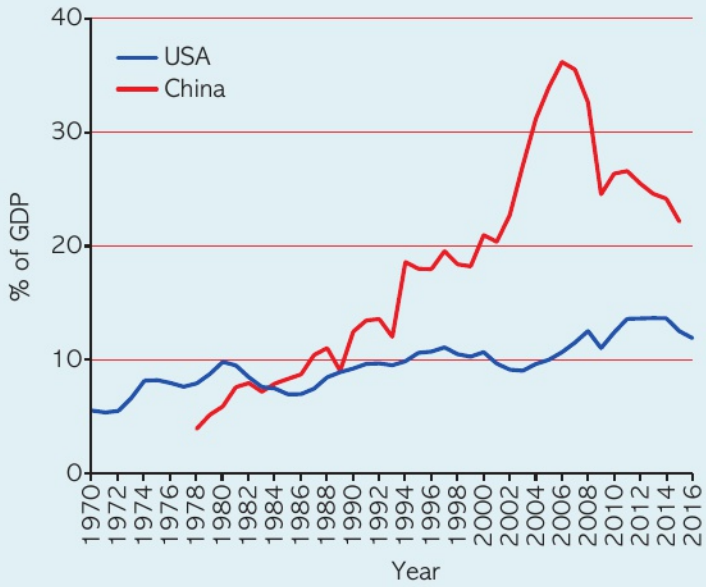
Some companies are responding to the rising wages by shifting production to other countries in South East Asia. Others are moving to cheaper parts of China. Samsonite, the luggage maker, which outsources about 65 per cent of its production to Chinese companies, has seen many of its suppliers move to provinces around Shanghai. 'About 80 or 90 per cent of the people we were working with were based in southern China,' says Tim Parker, chief executive of Samsonite. 'Now probably the majority [of what] we purchase comes from eastern China.'

Despite rising labour costs, any decision to leave the Pearl River Delta is not easy for foreign companies and their local manufacturers. Its ecosystem – everything from groups of suppliers to road and rail infrastructure to access to ports in Shenzhen and Hong Kong – is hard to match elsewhere without causing other cost increases. Nick Debham, Asia Head of Consumer Markets at KPMG, says textile manufacturers, for example, can shift lower-skilled production to countries such as Bangladesh and Cambodia relatively easily (although wages in these countries are also rising). But other industries, such as toy manufacturing, which is concentrated in south China, are less mobile as they rely on concentrated groups of suppliers. 'There are so many ancillary bits and pieces that need to be in place, it is difficult to move the whole thing lock, stock and barrel out of China', he says.

# EXAM PRACTICE

## GLOBALISATION – SPEEDING UP OR SLOWING DOWN?

**SKILLS** ANALYSING, REASONING, PROBLEM SOLVING, CRITICAL THINKING, INTERPRETATION, DECISION-MAKING




▲ **Figure 1 Export of goods and services, as % of GDP**

### EXTRACT A: UN WARNS ABOUT GLOBAL FDI FLOWS

Cross-border investments, by businesses around the world, had still not returned to their pre-crisis peak, almost a decade after the 2008 Global Financial Crisis. The UN's Conference on Trade and Development in 2017 said that global FDI flows fell 2% to $1.75 trillion in 2016, as companies invested less in the developing world and more in the US and other advanced economies. FDI into emerging economies fell by 14 per cent to $646 billion, in 2016. FDI inflows to Asia, China, Africa and Latin America were all down.

The World Bank warned that falling investment into developing countries was leading to a falling rate of productivity gains. FDI inflows were well below the level needed to achieve the poverty reduction and other 'sustainable development goals' agreed by the UN in 2015.

There is no doubt that FDI can do a lot of good: it can add to an economy's productive capacity. FDI 'imports' technology, production skills and better management. China is a good example of a country which has gained from FDI inflows. So this new downward trend in FDI inflows for developing countries will be a concern.

### EXTRACT B: GLOBALISATION MARCHES ON

On the one hand Donald Trump, the US president, seems to be putting the brakes on further globalisation – 'protection will lead to great prosperity and strength'. In contrast, President Xi Jinping of China insists that 'we must promote trade and investment, liberalisation and facilitation through opening up – and say no to protectionism'.

In the past, the US commitment to liberal trade has provided the environment within which Asia has become wealthy. In the case of China, the results have been dramatic. Its share of world exports of goods increased from around 1 per cent in 1981 to 4 per cent in 2000 – just before it joined the World Trade Organization in 2001 – and 14 per cent in 2014. Overall, Asia's share of world exports of goods (including re-exports) reached 33 per cent in 2015.

Unlike in Europe, regional trade agreements have played a relatively small role in the development of Asia's trade, the only significant exception being ASEAN (the Association of Southeast Asian Nations).

However, since 2012, China has been negotiating a trade agreement (Regional Comprehensive Economic Partnership – RCEP) which would include all 10 ASEAN states, along with Australia, China, Japan, India, New Zealand and South Korea. Although ASEAN already has free trade agreements with these countries, not all these countries currently have free

trade agreements with each other. Including the world's two most populated countries, the RCEP members would generate 31 per cent of world exports. If successful, the RCEP could form the basis of a future free trade area of Asia and the western Pacific, with China, and not the US, as its driving force. China's 'One belt, One Road' initiative, launched in 2013, might accelerate the development of such a vast open market.

The aim of the 'One belt, One Road' initiative is to use China's capital and organisational abilities to improve the supply of infrastructure throughout Eurasia, and even beyond. If successful, this would speed up economic integration, both by land and sea, within an economic system centred on China. The infrastructure needs of the Asia-Pacific region are so vast that additional Chinese resources should be helpful.

**1** In 2016, FDI inflows to Ethiopia rose by 46 per cent, compared to 2015, to $3.2 billion. Which one of the following is foreign direct investment? **(1 mark)**

(a) A tourist from the US buying foreign currency to spend in Ethiopia
(b) A company in the US importing goods from Ethiopia
(c) A company in Ethiopia buying capital goods from abroad
(d) A US company setting up a manufacturing plant in Ethiopia

**2** Read the extracts provided and answer the following:

(a) In 2016, the GDP of the United States was $US 18,624 billion. US exports were 12% of GDP and imports were 15% of GDP. Calculate the US net trade balance. **(2 marks)**
(b) Explain what is meant by the term 'globalisation'. **(4 marks)**
(c) With reference to extract A, examine the likely impact of a fall in FDI inflows on developing countries. **(8 marks)**
(d) With reference to the information provided, discuss the factors which may contribute to further globalisation. **(14 marks)**

**3** Evaluate the extent to which the reduced cost of transport explains increased globalisation over the last 50 years. **(20 marks)**

**EXAM HINT**

For Question 2d, consider the characteristics and causes of globalisation. Use the extracts to find evidence of current factors which may contribute to increased globalisation over time. Analyse why these may increase globalisation. To evaluate, consider whether the impact is likely to be significant. Are there any factors which might slow down globalisation?

**EXAM HINT**

For Question 3, analyse the reasons why transport costs have fallen: integrate a variety of economic concepts in your explanation. Has the fall in transport costs been significant? What are other causes of globalisation? Are these causes more or less significant than the fall in transport costs? Why might it be difficult to separate individual causes from each other?

# 22 THE EFFECTS OF GLOBALISATION

UNIT 4
4.3.1

## LEARNING OBJECTIVES

- Understand the possible benefits of globalisation:
  - increased economic growth
  - increased tax revenue
  - economies of scale
  - lower prices and higher consumer surplus
  - more choice
  - higher living standards
- Understand the possible costs of globalisation:
  - displaced workers
  - exploitation of workers
  - environmental impact of increased trade
  - loss of tax revenue from transfer pricing
  - increased income inequality within countries
  - the influence of TNCs on domestic economic policy

## GETTING STARTED

Research, using the internet, one positive and one negative effect globalisation has had on a country, such as China or Bangladesh.

The impact of globalisation on individual countries has been both positive and negative. There has been a growing debate, particularly in advanced economies, about whether the costs of globalisation have begun to outweigh the benefits. Globalisation will always create winners, but often losers too. These issues are discussed in this chapter.

LINK Student Book 1, Chapters 25 and 35; Student Book 2, Chapter 6

## THE POSSIBLE BENEFITS OF GLOBALISATION

### INCREASED ECONOMIC GROWTH

Globalisation can increase both actual growth and potential growth for an economy. Research suggests there is a link between greater trade openness and higher income per capita.

Some economies will particularly benefit from globalisation, since their growth is driven by exports. China, for example, has used export-led growth as its main economic strategy over recent decades. In 1970, China's exports of goods and services, accounted for just 2.5 per cent of GDP. In 2006 this peaked at 37.2 per cent. In comparison, exports as a percentage of GDP peaked for the USA at only 13.6 per cent in 2014. So globalisation, by opening up trade, has clearly helped China to achieve rapid economic growth in recent decades.

Globalisation will also help to increase potential growth through the impact of trade on productivity. Globalisation creates more competition between firms across the world. In highly competitive global markets, firms are under more pressure to keep costs down so they can remain price competitive. This forces firms to maximise efficiency. This leads to higher productivity in the economy and therefore higher potential growth. The short-run and long-run aggregate supply curve shifts to the right causing a rise in real GDP.

Less productive firms are likely to contract or shut down. Trade openness means productive firms have a large market to sell to, so they are likely to expand. Resources will be reallocated towards those firms or sectors where productivity is higher. Competition also promotes dynamic efficiency. Firms will have an incentive to invest in innovation, both product and process innovation, to remain competitive and to fully benefit from the ability to sell to a larger market. Process innovation means firms will be more efficient in their methods of production, which will increase productivity. The creation of new product ideas (product innovation) will encourage firms to invest in new technology. Product innovation may increase productivity if new capital is required to create the new products.

Increasing migration is also a characteristic of globalisation. Immigration can increase economic growth by filling skills gaps in the economy and so raising the productivity of existing workers. Immigrants may set up their own businesses and, if successful, will create jobs in the economy as their businesses expand. Immigration usually increases the working-age population, increasing output. All these factors increase economic growth.

Not all countries or regions within countries will benefit. Although some firms may be more productive, others may be forced to close, which will generate

unemployment. If workers are occupationally or geographically immobile, actual growth in a region or a country could fall. It will depend on the extent to which some firms or sectors shut down and the mobility of resources between uses. Workers who travel overseas to work might negatively affect economic growth, particularly if skilled workers leave an economy.

## INCREASED TAX REVENUE

If globalisation increases economic growth for an economy, then tax revenue should rise. If national income rises, then incomes and spending will be higher in the economy. Firms also have potential to make higher profits. This means income tax revenue, tax revenue from goods and services (for example, VAT) and revenue from corporate taxes should rise.

Some countries also impose tariffs (taxes) on imports. In this case, an increase in imports of goods and services, as a proportion of GDP, will raise tariff revenue for a government. FDI inflows will also create tax revenue for the recipient country. For example, a transnational moving a car plant from the UK to China will raise tax revenue for the Chinese economy.

However, tax revenue as a percentage of GDP is a lot lower in developing countries than in developed ones. In developing countries it is generally between 10 and 15 per cent, whereas for developed economies it averages about 35 per cent. Developing countries therefore need to broaden their **tax base** if economic growth is to generate higher tax revenues. Improving the efficiency of tax collection in developing countries would also generate higher returns in tax revenue from economic growth.

## ECONOMIES OF SCALE

Globalisation, by creating a large international market for a firm to target, allows firms to gain from **economies of scale**. They can increase their scale of production to minimise their average costs. This will be beneficial for both producers and consumers. Producers can make higher profits or they can lower their prices to remain price competitive. For consumers, prices are likely to be lower if a firm is benefitting from economies of scale. Sources of economies of scale are both internal and external. For example, a firm selling to a large market can negotiate bulk buying discounts on raw materials.

If a country increasingly specialises in producing goods that it is relatively good at producing, firms within that country may increasingly gain from external economies of scale. External economies arise when the size of a particular industry in an economy increases. Individual firms might benefit from this. For example, there might be increasing availability of suitably skilled labour, as training becomes more specific to the particular needs of the country.

## LOWER PRICES AND HIGHER CONSUMER SURPLUS

Globalisation leads to a fall in the price of some goods and services as production is switched from high-cost locations to low-cost locations. For example, switching production of television sets from the US to China will lead to a fall in labour costs because Chinese workers are prepared to work for much lower wages than US workers. Equally, the globalisation of technology means that a Chinese factory can use the most advanced machines and methods of production to ensure the lowest cost. Globalisation allows firms to source products from a wider variety of countries and firms. The wider the supplier network, the lower the price at which a firm can buy is likely to be. Key to lower costs is the ability to use lower-paid workers, often in the developing world.

Globalisation, via lower tariffs on imported finished goods, can also contribute to lower prices for consumers. Prices are also likely to fall as a result of globalisation due to productivity gains by firms. This becomes increasingly important as a means of maintaining global price competitiveness. Firms need to be productively efficient to survive in markets which are more intensely competitive as a result of globalisation. A rise in productivity reduces average costs and these are likely to be passed on to the consumer.

Lower prices will increase consumer surplus, so consumers will experience a welfare gain. A recent report by the International Monetary Fund (IMF) suggested that lower income households particularly benefit from lower prices due to trade. This is because they spend a higher proportion of their income on tradeable goods (such as food and drinks) than those on higher incomes. Higher income groups spend a higher proportion of their income on less tradeable sectors, such as services.

Globalisation is, however, leading to a rise in the price of some goods and services, because it is raising average world incomes. Higher income means higher demand for individual products. Where supply is not perfectly elastic in the long run, this puts upward pressure on prices.

During the first decade of the twenty-first century, the price of commodities went up dramatically, mainly due to increased demand from China. However, commodity prices have since collapsed as China's growth has slowed and supply has risen. Consumers round the world are negatively affected when the price

of petrol increases by 50 per cent or the price of wheat goes up by 30 per cent. Equally, they benefit when commodity prices fall significantly.

### MORE CHOICE

The availability of goods and services has considerably increased with globalisation so there is more consumer choice. The number of different products available in high streets, shopping centres and supermarkets is larger than it was 20 years ago. It is the same in the services market. For example, in many countries, people choose to go abroad on holiday.

Some argue that goods and services have become more homogenised (i.e. similar) because of globalisation; a holiday in Spain is the same as a holiday in Peru apart from the scenery. The food is 'international food', the hotels provide the same rooms and facilities, and sightseeing is packaged to suit western tastes. Equally, a particular skirt made in China may end up being bought by a girl in the UK, the USA or Japan.

### HIGHER LIVING STANDARDS

Real GDP per capita is used to measure living standards. If globalisation promotes a rise in real GDP per capita, then living standards on average will rise in an economy. Globalisation has raised incomes round the world. Consumers are therefore able to buy more goods. However, not every consumer has gained. Workers in the US who have lost their jobs because production has moved to China are likely to be worse off. Equally, some argue that globalisation is a cause of below-average earnings for workers in countries like the US.

Many developing countries have benefited from globalisation through inward FDI flows. Globalisation is inevitably leading to a shift of production from the developed world to the developing world. This is one key way in which the poor developing countries of the world can increase their living standards.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING

### CASE STUDY: THE BENEFITS OF GLOBALISATION

Despite what the critics say, globalisation has brought many benefits. In the decades after 1945, world trade increased rapidly, bringing with it a vast improvement in global living standards. Exports of goods rose from 8 per cent of world GDP in 1950 to almost 20 per cent half a century later. Export-led growth and foreign investment has dragged hundreds of millions of people out of poverty in China and transformed economies from Ireland to South Korea.

Even in advanced economies, free trade has been beneficial. Exporting firms are more productive and pay higher wages than those that only serve the domestic market. Half of America's exports go to countries with which it has a free trade deal. Increased migration also brings benefits. For example, European immigrants who arrived in Britain since 2000 have been net contributors to government revenue, adding more than £20 billion ($34 billion) to public finances between 2001 and 2011.

Protectionism, by contrast, hurts consumers and does little for workers. The worst-off benefit far more from trade than the rich. A study of 40 countries found that the richest consumers would lose 28 per cent of their purchasing power if international trade ended; but those in the bottom tenth would lose 63 per cent. The annual cost to American consumers of switching to non-Chinese tyres after Barack Obama imposed anti-dumping tariffs in 2009 was around $1.1 billion, according to the Peterson Institute for International Economics. That amounts to over $900,000 for each of the 1200 jobs that were 'saved'.

**1** Use the extract to identify two possible benefits of globalisation. Give reasons for your answers.

## POSSIBLE COSTS OF GLOBALISATION

### DISPLACED WORKERS

The transfer of much of manufacturing from western Europe and the USA to countries such as China has led to large-scale losses of jobs in the developed world. At the same time jobs have been created in the developing world. In western Europe and the USA, many workers who became unemployed have found new jobs, particularly in the service sector of the economy, but not necessarily at the same rate of pay as before. Some have simply remained unemployed. Structural unemployment in traditional manufacturing areas has therefore occurred. These changes, however, are not new. Throughout the 1800s in the UK, there was a large transfer of workers from rural areas to towns and from agriculture to manufacturing and services. Globalisation might be speeding up the rate of change, but there would have been change anyway. It is difficult to identify the impact globalisation has had on job losses compared to what would have happened anyway as technology advanced.

Immigration also creates some displacement of workers. Immigrants compete in the job market with workers from their host country. Native workers can then perceive immigrants as taking 'their jobs' or

lowering wage rates because of competition in the labour market. The exact impact of immigration on displacement of native workers and wage rates is likely to vary from country to country.

## EXPLOITATION OF WORKERS

Exploitation of workers is when an employer treats its workers unfairly. Exploitation usually arises when there is an unbalanced power relationship between an employer and employee. This is particularly the case for unskilled labour because there is a large supply of it. In advanced economies, low skilled workers are effectively having to compete with workers in developing countries. If their wages are too high, then firms can choose to import components from abroad rather than make them domestically, or move production overseas. This is less of an issue for skilled workers, since advanced skills are scarcer in developing countries. Low-skilled workers are therefore less likely to be able to negotiate their wages and other terms or conditions. This may mean some workers are exploited. However, governments in advanced economies usually have employee protection laws and minimum wages, so the degree of exploitation is minimised.

The increasing importance of transnational corporations and foreign direct investment is a characteristic of globalisation. Although many developing countries gain from FDI, some TNCs have a record of exploiting the weaker labour regulation in these countries. In these cases, workers in developing countries can suffer poor working conditions, even when employed by a transnational. However, although there might seem to be worker exploitation from a developed country's point of view, workers in developing countries may not feel exploited. For many, working for a TNC raises their standard of living compared to previous unemployment or working in the subsistence sector.

## ENVIRONMENTAL IMPACT OF INCREASED TRADE

Rising world production inevitably has an impact on the environment. If world production of wooden furniture rises, there must be an increase in logging of trees. If world food production rises, this must have an impact on the amount of land in cultivation and farming practices. If every Chinese and Indian household is to own a fridge, there must be an increase in the production of iron ore and electricity.

Extra demand for raw materials and increased emissions and waste have, so far, had an overall negative impact on the world environment. For example,

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING

### CASE STUDY: THE IMPACT OF GLOBALISATION ON CHINA

Factory workers in America and Europe sometimes blame China for 'stealing their jobs'. There is no doubt that China has benefited hugely from its vast supply of workers who are willing to work for a small proportion of Western wages. Since 1979, globalisation has made China the workshop of the world and lifted hundreds of millions out of absolute poverty. However, a newspaper article published in Beijing in December 2016 blamed globalisation for China's income inequality, housing bubbles and environmental destruction.

Today, working-class Chinese, as well as members of the new middle class, worry about high inequality, the impact of mass migration from the countryside into cities and job losses. In the past couple of years, jobs in manufacturing have been declining, partly because globalisation is beginning to affect China as it does in developed economies. Some factories have been moving to cheaper locations abroad. The impact is felt in many of the hundreds of towns that specialise in making certain products.

Datang, China's 'sock city', is a good example: in 2014 it made 26 billion pairs of socks, some 70 per cent of China's production, but many factories are closing as garment making moves to cheaper countries in Asia. As a local boss says, 'People simply won't pay more for a pair of socks.' This means China's economy is shifting away from labour-intensive manufacturing to higher-tech industries and services. In 2013, the contribution to GDP from services, such as transport, shops, restaurants and finance, pulled ahead of industry, including manufacturing, mining and constructions, for the first time.

However, many of those who used to work in factories are finding it hard to find new jobs in these sectors. Official data shows that more than two-thirds of workers laid off in recent years were poorly educated and around half were aged 40 or older. The government has assigned 100bn yuan ($14.5bn) to pay for the relocation and retraining of workers laid off in the steel and coal industries.

Based on: The Economist, Serving the people: China has gained hugely from globalization © 2016, The Economist Newspaper Limited

1 Give the likely reason why globalisation has helped lift hundreds of millions of Chinese people out of poverty.
2 How is globalisation causing displacement of workers in China?
3 What other problems mentioned in the passage might globalisation have caused China?

## ACTIVITY 3

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: PHONES AND BATTERIES

It has taken some well-known companies nearly 15 years to clear the stain on their brands caused by previous use of **sweatshops** in the developing world. More attention is now paid to workers' rights. Today there is greater examination of the global supply chains used by transnationals and wider consumer awareness of the problems of outsourcing manufacturing. Technology has also made it easier to monitor where and under what conditions things are made. There should be fewer cases of unethical behaviour than in the past.

Bigger problems might occur when manufacturing capacity moves out of China, in particular to low-wage Bangladesh. Problems are also found where primary resources are mined, such as the Democratic Republic of Congo. There is concern that child labourers are being used to mine cobalt. Demand for cobalt has pushed up prices by 80 per cent in 2017. This is only likely to increase as more electric cars take to the roads.

Source: The blood and sweat in phones and batteries, © 2018, The Financial Times Limited

1 Identify the reasons why exploitation of workers in emerging economies might fall in the future.
2 Suggest why outsourcing to Bangladesh or mining in the Democratic Republic of Congo might lead to worse cases of worker exploitation.

greenhouse gas emissions continue to rise. However, environmental degradation is not inevitable and economic growth can be environmentally sustainable. Many rich countries have made considerable progress by using some of the proceeds of economic growth to reverse environmental degradation.

## LOSS OF TAX REVENUE

Firms which operate in several countries (i.e. transnationals) have the ability to engage in **tax avoidance**. Tax avoidance, although legal, suggests a firm is deliberately manipulating the tax system to pay less than a 'fair' amount. There are three main ways in which they do this.

- One is based on genuine production and **transfer pricing**. A firm produces good X in country A and then transports it to country B; here, it uses good X to produce good Y, which it then sells. Country A has high taxes on profits and country B has low taxes on profits. The transnational can reduce its total profits tax by putting a very low artificial price on the product made in country A before sending it to country B. Profits are then reduced in country A and increased in country B. Overall the transnational makes a tax saving. Transfer pricing rules are often based on an agreed international standard developed by the OECD. These have been adopted by many countries. A high proportion of global trade is made up of buying and selling between companies which are part of the same transnational group. The prices of these transactions have to follow international tax rules to determine how much profit is taxed in each country. However there are, in practice, many transfer pricing arrangements which can be challenged.
- A second way is to set up an office in a low-tax country such as Ireland, Luxembourg or the Bahamas. Ownership of a key production element such as a patent, copyright or sales is assigned to that country and a significant proportion of costs is then assigned to that key production element which at best eliminates all profit made in other countries. The revenues are then taxed in Ireland, Luxembourg or another **tax haven** at virtually zero per cent. As a result the transnational avoids tax.
- A third way is to transfer production facilities to a low tax country. Ireland has attracted many firms, for example, because it has very low taxes on profits compared to other EU countries.

Transnationals would argue that they pay exactly the right amount of tax according to the tax laws of every country. Critics would argue that they artificially create structures in order to avoid paying tax.

## ACTIVITY 4

SKILLS REASONING, ANALYSIS

### CASE STUDY: LARGE COMPANIES UNDERPAYING TAX

According to HM Revenue and Customs, the tax collector in the UK, large companies potentially underpaid £24.8 billion in tax in the year to March 2017. The UK government is losing out on billions of pounds of tax revenue. The Chancellor of the Exchequer, the government minister in charge of finances, wants to raise an extra £2 billion in tax revenue by 2022 by targeting this tax avoidance.

The increased efforts to stop tax avoidance are one reason why corporate tax paid by large businesses increased by 12 per cent from £44.4 billion to a record £49.5 billion in 2016–17. These figures reflect HMRC's investment in transfer pricing specialists, who study the prices charged on transactions between different parts of the same company.

1 Why are transnationals more likely than other firms to pay less tax than the tax rules originally intended?

## INCREASED INCOME INEQUALITY WITHIN COUNTRIES

In a perfect labour market where all workers are homogeneous (identical), workers will all earn the same wage rate. Globalisation is shifting workers to different locations around the world. It is also shifting places of work from one country to another. Fifty years ago, a low-skilled worker in a factory in the US making television sets was only competing for a job with other low-skilled workers in the local area or, in the long run, in the rest of the US. Today, a low-skilled factory worker in the US is competing not only with workers who have moved into the area, but also with factory workers in China and Vietnam. A transnational electronics company is likely to base its production operations in countries with low wage costs. So workers in the US have to match the wage levels of workers in other countries if they want to keep their jobs. In practice, this has meant that a large proportion of manufacturing in the high-cost developed world has shut down and production has moved to low-cost developing countries.

As a result, international competition has tended to substantially lower the wages of low-skilled workers in developed countries. The impact on high-skilled workers has been the reverse. In a global market place, their skills are in high demand because there are relatively few workers with these skills in developing countries. The overall impact in developed countries will depend on how governments respond: for example, the education system might be adapted to provide the skills needed for people to work in high productivity sectors.

For developing countries the impact of globalisation on income inequality is unclear. Income inequality is rising in some developing countries but falling in others. The causes of income inequality are complex, so it is not always easy to separate one particular cause from others. Globalisation will create new industries and new types of job in developing countries. Demand for labour is likely to increase, particularly if globalisation creates export-led growth. However, the wage differences between low-skilled and skilled labour could widen or narrow. Although transnationals relocate production to low wage countries, they will often employ workers who are relatively skilled by that country's standards. In this case, transnationals paying a high relative wage to these workers will increase income inequality.

## THE INFLUENCE OF TNCS ON DOMESTIC ECONOMIC POLICY

Transnational companies are able to influence the decisions of governments across the world. This is partly because they have the skills and the money to lobby governments; partly because governments are influenced by promises of large investments or threats to remove investment from their countries; and partly because transnationals have a record of using bribery to influence government decisions

## NON-ECONOMIC IMPACT OF GLOBALISATION

Globalisation is not just an economic phenomenon. It is a political, social, technological and cultural phenomenon too. One area where it has a non-economic impact is culture – globalisation weakens native cultures. US culture in particular (as seen through US films and television programmes shown throughout the world) is replacing some aspects of native culture.

Politics too is affected by globalisation. Nation states have lost sovereignty, which is the ability to make choices about how their affairs are conducted. Partly, this is because they have signed international treaties which limit their sovereignty and partly it is because the forces of globalisation have become so strong that nation states cannot resist them. For example, it is difficult for a nation state to completely censor news, books or films in the age of satellite broadcasting, the internet or the video and DVD.

## THE OVERALL IMPACT OF GLOBALISATION

Countries can both benefit and lose out from the process of globalisation. They benefit economically if globalisation leads to rising incomes, more and better-quality jobs, lower prices and more consumer choice. They lose out if globalisation leads to a loss of industries, higher unemployment and lower wages.

The process of globalisation can lead to major economic change over a relatively short period of time, with enormous long-term consequences. For example, in the UK, globalisation and competition from the Far East in the 1950s, 1960s and 1970s almost completely destroyed the UK's textile and shipbuilding industries. This had knock-on effects on the steel industry and the coal industry. Regions such as Wales, Scotland, Northern Ireland, the North East and the North West are arguably still recovering from the loss of those industries.

In countries like China, the benefits from rapid growth in incomes caused by globalisation have to be offset against the very large negative impact that the growth of high-polluting industries has had on the environment. Equally, there has been a massive internal migration of people from rural areas to cities, which brings its own benefits but also has costs in terms of loss of family ties.

Economists disagree about the exact costs and benefits of globalisation. For example, what are the benefits in terms of increased income; what are the environmental costs; and do the benefits of increased income outweigh these environmental costs?

Equally, there is no agreement about the extent to which it is globalisation that is bringing about these costs and benefits. For example, if the Indian economy grew by five per cent last year, what proportion of this was due to globalisation? And what proportion of the environmental degradation in Brazil is being caused by globalisation?

Arguments for and against globalisation tend to be linked to a number of other economic debates, discussed elsewhere in this book.

- Does economic growth lead to an increase in economic welfare?
- Is economic growth unsustainable from an environmental perspective?
- Does protectionism rather than free trade promote economic growth?
- Do transnational companies have more power over economies than most nation states and do they act purely to gain profit for their shareholders?
- To what extent are developing countries lifting themselves out of poverty? Is there any evidence to suggest that developing countries are catching up with developed countries?
- Is the rich, developed world exploiting the poor, developing world?
- Are organisations such as the WTO or the IMF, which support or promote trade liberalisation, controlled by the rich countries of the world and do they act against the interests of poorer countries?

## CHECKPOINT

1. Why does globalisation, by promoting competition, increase economic growth?
2. How does globalisation help firms benefit from economies of scale?
3. Why does globalisation reduce some prices?
4. How do consumers benefit from globalisation?
5. State the reasons why globalisation might increase living standards.
6. What is a displaced worker?
7. Do transnationals exploit workers?
8. Does increased trade have an environmental impact?
9. Why might globalisation have caused income inequality to rise in developed economies?
10. Why might transnational companies have more power over domestic economic policy than they should?

## SUBJECT VOCABULARY

**economies of scale** a fall in the long run average costs of production as output rises

**redistribution** when income and wealth is taken by governments from some individuals and given to others

**sweatshop** a small business, factory etc. where people work hard in bad conditions for very little money

**tax avoidance** when an individual or firm deliberately manipulates the tax system to pay less than the 'fair' amount

**tax base** the income and wealth which a government can tax based on their tax laws

**tax haven** a place where people go to live, or firms locate, to avoid paying high taxes in their own country

**transfer pricing** an accounting technique used by transnational companies to reduce taxes on profits by selling goods at a low price internally from a high-tax country to another part of the company in a low-tax country

## THINKING LIKE AN ECONOMIST

### IS THIS THE END OF GLOBALISATION?

In recent years, there has been a rising wave of opposition to globalisation, particularly from advanced economies. It has been reported that Donald Trump, the US president, believes unfair competition from foreign firms has destroyed jobs at home. Britain's Brexit vote, the decision by the UK to leave the EU, for many, reflected concerns about the impact of too many immigrants on public services and jobs. Although globalisation has lifted millions out of poverty in China, many working-class families in Western countries feel left behind. So, does this mark the end of globalisation? There are reasons to think not:

- Although globalisation has shrunk the relative income of advanced economies, it has boosted emerging ones. In developing countries, trade has help to lift 1bn people out of extreme poverty. Emerging economies have a clear interest in keeping globalisation going and will resist a return to protectionism.
- Even if economies want to de-globalise, it is hard to do this. International business today is driven by knowledge flows, which are not stopped by tariffs, and by large-scale production which uses cross-border supply chains. These cross-border supply chains mean the production of a good, from start to finish, involves many different countries.
- Many economists argue that globalisation bears little blame for many of the West's economic problems, such as falling incomes and job losses in manufacturing for the low-skilled. Technological change is likely to be the main reason for falling manufacturing employment. Productivity increases caused by technological advances have been vast; even if China disappeared tomorrow, far fewer jobs would return to America's shores than left them. Even if direct competition from emerging economies is partly to blame, domestic policies could have been more effective in helping those who were left behind. Better **redistribution**, education and training, social insurance against job loss and checks on abuse of market power could all have minimised underemployment and wage stagnation. The USA only spends 0.1% of its GDP, one sixth of the rich country average, on policies to retrain workers to help them find new jobs. Therefore, some argue that domestic policies are responsible for the costs of globalisation.

Based on: Why they're wrong, © 2016, The Economist Newspaper Limited; Three reasons why globalisation will survive protectionist rebellions, © 2017, The Financial Times Limited

# EXAM PRACTICE

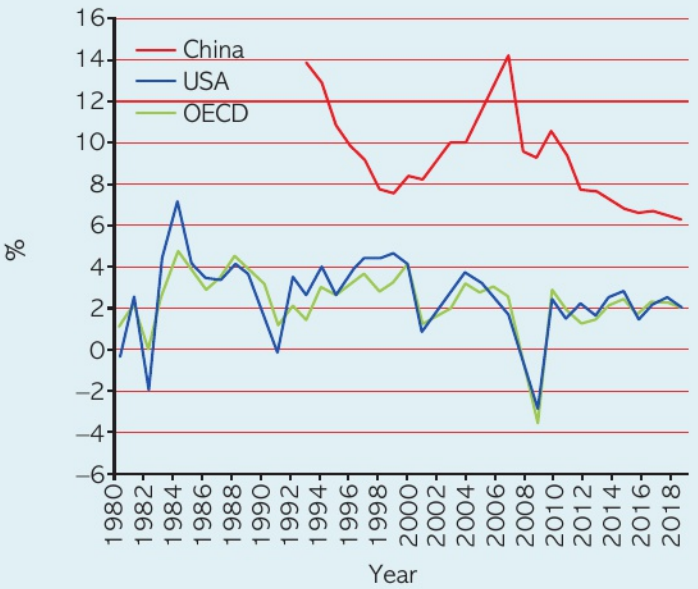
## THE IMPACT OF GLOBALISATION ON THE US ECONOMY

**SKILLS** REASONING, ANALYSING, PROBLEM SOLVING, INTERPRETATION, CRITICAL THINKING

### EXTRACT A: THE BENEFITS OF GLOBALISATION FOR THE USA

Globalisation has led to more affordable imports for US citizens. Robert Lawrence and Lawrence Edwards, two economists, estimate that trade with China alone put $250 into the pocket of every American in 2008. The largest proportion of the gains from low prices flowed to the less well-off, because the poor spend a higher proportion of their incomes on goods than the rich.

At the same time, trade created new markets for American firms. In 1993 America sold nearly $10 billion worth of cars and parts to Mexico at today's prices. By 2013 that had risen to $70 billion. Many American firms have become tightly integrated across the southern border, with low-skilled work done in Mexico and more complex tasks done in the USA. Exports to China grew by almost 200 per cent between 2005 and 2014, with agriculture, air travel and car industries leading the way. Some workers have benefited from rising exports, because firms that export tend to pay more; one estimate puts the export wage premium at 18 per cent.




▲ **Figure 1 A comparison of economic growth rates of the US, the OECD as a whole and China**

Source: Real GDP forecast Total, Annual growth rate (%), 2009–2020, © 2018, Used with permission from OECD

Globalisation should also present future benefits for the US economy. China's urban middle class will double over the next decade and will seek services, from finance to telecoms, which America can compete to provide. Europe presents another opportunity. Removing all non-tariff barriers across the Atlantic could raise GDP in the US by up to 3 per cent according to a recent study.

## EXTRACT B: THE COSTS OF GLOBALISATION FOR THE USA

Economic theory predicts that trade, though often good for average incomes, will squeeze the pay of those workers whose skills are relatively widespread overseas. At the same time, wages for skilled workers will rise. A sharp rise in the college premium – the additional wages earned by skilled workers – from around 30 per cent in 1979 to almost 50 per cent by 2000, seemed to confirm this theory. Although technological change may be partly to blame, Mr Krugman, an economist, warned that the sheer volume of trade with China and other poor countries was probably increasing inequality. In 2013 it was estimated, by Josh Bivens of the Economic Policy Institute, that trade with poor countries depressed unskilled workers' wages by 10 per cent in 2011, up from 2.7 per cent in 1979. Overall, trade was responsible for one-third of the rise in the college premium.

The impact of trade on US jobs was also a growing concern. A recent estimate suggests about 1 million of 5.5 million manufacturing jobs were lost to Chinese competition between 1999 and 2011.

Source: Trade, at what price?, © 2016, Used with permission from The Economist Newspaper Limited

Q

**1** In 2018, the US president put 'made in America' at the core of US economic policy. There was concern that the costs of globalisation had been too high. Which one of the following might be a cost of globalisation? **(1 mark)**

(a) Higher consumer surplus
(b) Transnationals' use of transfer pricing
(c) Higher real GDP per capita
(d) Economies of scale

**2** Read the extracts provided and answer the following:

(a) In 1993, the US sold about $10 billion worth of cars and parts to Mexico, at today's prices. By 2013, this had risen to $70 billion. If this is converted into indices, and 2013 is the base year, calculate the index number for 1993. **(2 marks)**

(b) Explain what is meant by 'globalisation'. **(4 marks)**

(c) With reference to extract A, analyse the likely benefits of globalisation for the US consumer. **(6 marks)**

(d) With reference to the information provided, examine the likely impact of globalisation on economic growth in the US. **(8 marks)**

(e) With reference to the information provided, discuss the costs of globalisation for the US economy. **(14 marks)**

**3** Evaluate whether globalisation has been beneficial for developed countries. **(20 marks)**

### EXAM HINT

For Question 2d, analyse reasons why globalisation might increase or decrease economic growth, using evidence from the extracts and Figure 1 to support your answer. For evaluation, consider what factors might affect the size of the impact on economic growth.

### EXAM HINT

For Question 3, analyse the likely costs of globalisation for the US economy. Make sure you use extract B. Evaluate by considering what factors will affect the significance of these costs. Is globalisation the only cause of some of these costs?

# TRADE AND THE GLOBAL ECONOMY

Understanding why countries trade is important. This is discussed by developing a theory which shows that all countries can potentially benefit from trade, if they specialise in those goods or services which they are relatively good at producing. Possible problems of specialisation and trade are then identified. The section moves on to consider the factors affecting the patterns and volume of world trade and what is meant by the terms of trade. The concept of 'trading blocs' and how membership of a trading bloc will bring both benefits and costs for its members is discussed. The last chapter looks at why a country might restrict free trade, what types of restriction exist for countries to use and the potential impact of protectionist policies on different groups in the economy.

# 23 SPECIALISATION AND COMPARATIVE ADVANTAGE

UNIT 4
4.3.2

## LEARNING OBJECTIVES

- Understand the theory of comparative advantage, including:
  - the distinction between absolute and comparative advantage
  - the assumptions underlying the theory of comparative advantage
  - the limitations of the theory of comparative advantage
- Understand the benefits and costs of specialisation and trade in the international context

## GETTING STARTED

In a team sport, such as football, there is usually one player who is the least skilled. What position should he play?

## THE DISTINCTION BETWEEN ABSOLUTE AND COMPARATIVE ADVANTAGE

### ABSOLUTE ADVANTAGE

Economists in the eighteenth and nineteenth centuries developed theories centred around why differences in costs led to international trade. Adam Smith, in his famous example of a pin-making factory, explained how specialisation enabled an industry to increase the production of pins from a given quantity of resources. In an economy, specialisation exists at every level, from the division of labour in households to production at an international level.

LINK Student Book 1, Chapter 4

Consider Table 1. Assume that there are only two countries in the world, Spain and Portugal. They produce only two commodities, wheat and olive oil. Labour is the only cost, measured in terms of worker hours to produce one unit of output. Table 1 shows that it costs more in worker hours to produce a unit of olive oil in Spain than in Portugal. Portugal is said to have an **absolute advantage** in the production of olive oil. It can produce both goods but it is more efficient in the production of olive oil. On the other hand, it costs more in worker hours to produce wheat in Portugal than in Spain, so Spain has an absolute advantage in the production of wheat. It is clear that it will be mutually beneficial for Spain to specialise in the production of wheat and for Portugal to specialise in the production of olive oil and for the two countries to trade.

| | Cost per unit in worker hours | |
|---|---|---|
| | Wheat | Olive oil |
| Spain | 10 | 15 |
| Portugal | 20 | 10 |

▲ Table 1

In the above example, using the data in Table 1, with 60 worker hours Spain can produce 6 (60 ÷ 10) units of wheat or 4 (60 ÷ 15) units of olive oil. In comparison, with 60 worker hours, Portugal can produce 3 units of wheat (60 ÷ 20) or 6 units (60 ÷ 10) of olive oil. The country which can produce a greater quantity of a good, with the same amount of worker hours as the other country, will have an absolute advantage in the production of that good. So Spain has an absolute advantage in the production of wheat and Portugal has an absolute advantage in the production of olive oil.

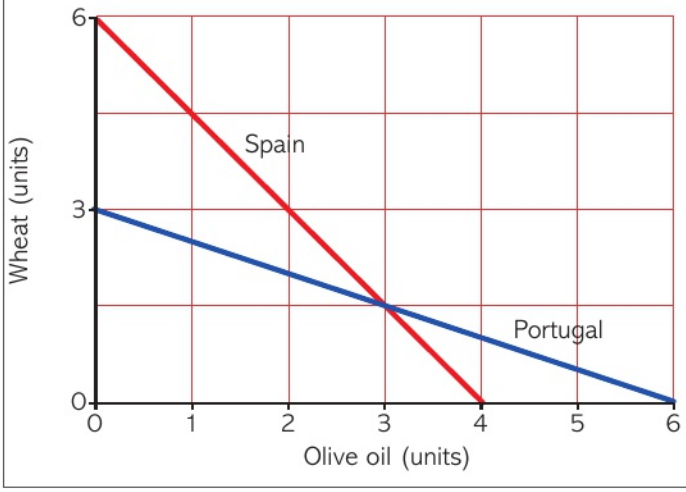
In the above example, labour was assumed to be the only factor of production needed to produce the goods. In practice, however, all the factors of production – land, labour, capital and enterprise – are needed to produce a good. So the general definition of absolute advantage uses the term 'factor inputs': the factors of production used in the production of a good. Absolute advantage is when one country can

produce a greater quantity of a product than another country, using the same amount of factor inputs.

In Figure 1, Portugal can produce 3 units of wheat or 6 units of olive oil with 60 worker hours. This is shown in the **production possibility frontier** (PPF) for Portugal. With 60 worker hours, Spain can produce 6 units of wheat or 4 units of olive oil. This is shown in the PPF for Spain. Portugal has an absolute advantage in the production of olive oil. If both countries devote 60 worker hours to the production of olive oil, then Portugal can produce a higher quantity of olive oil (6 units), compared to Spain (4 units). In the same way, if both countries devote their 60 worker hours to the production of wheat, then Spain can produce more units of wheat than Portugal (6 units of wheat compared to Portugal's 3 units of wheat) So, absolute advantage can be seen clearly from a PPF diagram, provided the same factor inputs are used.

**FIGURE 1**

In this example, Spain has an absolute advantage in the production of wheat and Portugal has an absolute advantage in the production of olive oil. However, in other examples, it is possible for one country to have an absolute advantage in the production of both products.




Absolute advantage is when one country can produce a greater quantity of a product compared to another country using the same amount of resources (factors of production). Having an absolute advantage in the production of a good means the country is able to produce this good more cheaply, in absolute terms, than another country.

## THE THEORY OF COMPARATIVE ADVANTAGE

David Ricardo, working in the early part of the nineteenth century, realised that absolute advantage was a limited case of a more general theory. Consider Table 2. In this example, Portugal can produce both wheat and olive oil more cheaply than Spain (i.e. it has an absolute advantage in both commodities). What David Ricardo saw was that it could still be mutually beneficial for both countries to specialise and trade. This became known as the theory of **comparative advantage**.

A country has a comparative advantage in the production of a good or service when it can produce it relatively more efficiently than another country. In other words, it can produce it at a lower **opportunity cost**. This is explained in the following example and developed to show how mutual trade can still be beneficial for a country, even if it has an absolute advantage in the production of both goods.

In Table 2, a unit of olive oil in Spain requires 30 worker hours to produce. If these worker hours are allocated instead to the production of wheat, then two units of wheat can be produced. So, a unit of olive oil in Spain costs the same amount to produce as two units of wheat. Production of an extra unit of olive oil means sacrificing production of two units of wheat (i.e. the opportunity cost of producing a unit of olive oil is two units of wheat).

LINK Student Book 1, Chapter 3

In Portugal, 15 worker hours are needed to produce one unit of olive oil. If these worker hours are allocated instead to the production of wheat, then 1.5 units of wheat can be produced. So, in Portugal, a unit of olive oil costs 1.5 units of wheat to produce (i.e. the opportunity cost of producing a unit of olive oil is 1.5 units of wheat in Portugal). These opportunity cost ratios are shown in Table 3.

As relative or comparative costs differ, it will be mutually advantageous for both countries to trade even though Portugal has an absolute advantage in both commodities. Portugal is relatively better at producing olive oil than wheat, so Portugal is said to have a comparative advantage in the production of olive oil. To produce 1 unit of olive oil, Portugal only has to sacrifice the production of 1½ units of wheat; whereas Spain, to produce 1 unit of olive oil, has to sacrifice the production of 2 units of wheat. Comparative advantage arises when the opportunity cost ratios differ between the countries.

In this example, Spain is relatively better at producing wheat than olive oil. This is shown by considering the opportunity cost of producing 1 unit of wheat, in terms of olive oil, for both Spain and Portugal (as in Table 4). Spain has a lower opportunity cost of producing 1 unit of wheat, compared to Portugal, because it only has to sacrifice the production of half a unit of olive oil; whereas Portugal would have to sacrifice two-thirds of a unit of olive oil. So, Spain has a comparative advantage in the production of wheat.

Provided the opportunity cost ratios are different, if one country has a comparative advantage in the production of one good, then the other country will have a comparative advantage in the production of the other good. This is true even when one country has an absolute advantage in the production of both goods.

| | Cost per unit in worker hours | |
|---|---|---|
| | Wheat | Olive oil |
| Spain | 15 | 30 |
| Portugal | 10 | 15 |

▲ Table 2 Cost per unit in worker hours

| | Wheat | Olive oil |
|---|---|---|
| Spain | 2 | 1 |
| Portugal | 1½ | 1 |

▲ Table 3 Opportunity cost ratios

| | Wheat | Olive oil |
|---|---|---|
| Spain | 1 | ½ |
| Portugal | 1 | 2/3 |

▲ Table 4: Opportunity cost ratios

Table 5 shows that even if a country has an absolute advantage in the production of both goods, specialisation and trade might be advantageous. Costs of production are as set out in Table 2. It is assumed that both countries without trade choose to produce both goods. Without trade, they need to be self-sufficient. With 300 worker hours available, they each allocate 150 hours to the production of each good. This means Spain will produce 10 units of wheat and 5 units of olive oil, while Portugal will produce 15 units of wheat and 10 units of olive oil. The total output of wheat will be 25 and the total output of olive oil will be 15.

If both countries now specialise, with Spain devoting all its 300 worker hours to the production of wheat and Portugal partially specialising, by devoting 240 hours to the production of olive oil and 60 hours to wheat, then total production is 26 units of wheat and 16 units of olive oil. Specialisation has enabled the world economy to increase production by one unit of wheat and one unit of olive oil. In this case, because Portugal has the absolute advantage in the production of both goods, partial specialisation is necessary to ensure the total output of both goods rises.

This example shows the benefits of **specialisation** and trade, according to the **theory of comparative advantage**. The theory of comparative advantage states that if countries specialise in those goods or services in which they have a comparative advantage, then output of both products will increase. This is a gain in economic welfare for the world economy. However, the theory of comparative advantage does not say how these gains will be distributed between the two countries. This depends upon the wheat/olive oil exchange rate, a point discussed below.

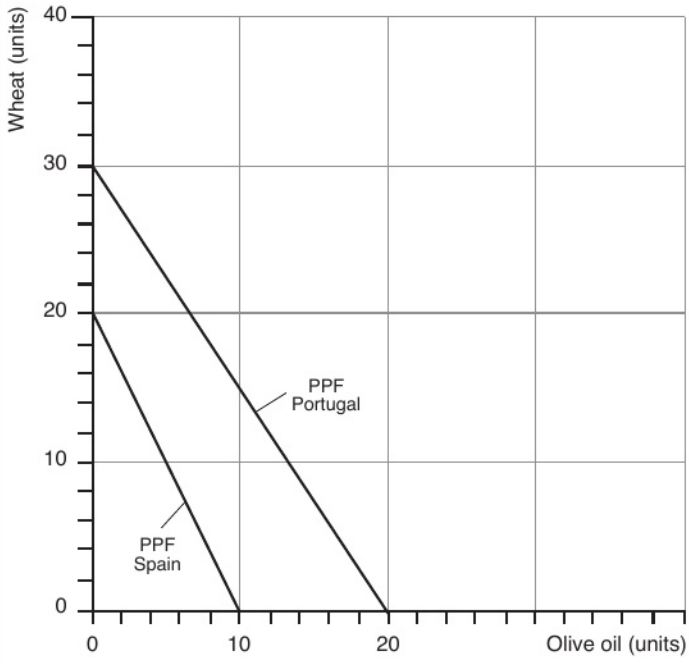
Absolute advantage and comparative advantage can also be seen using production possibility frontiers. With 300 worker hours available, the production potential for both economies is shown in Figure 2. Portugal has an absolute advantage in production of both olive oil and wheat: with the same resources, it can produce more olive oil and more wheat than Spain. Because Portugal has an absolute advantage in the production of both wheat and olive oil, Portugal's PPF will be further to the right than Spain's PPF. However, the gradient (or steepness) of the two PPF curves differs, showing that the two countries have different opportunity cost ratios. This means comparative advantage exists. Wheat is relatively

| | Production before trade | | Production after specialisation and trade | |
|---|---|---|---|---|
| | Wheat | Olive oil | Wheat | Olive oil |
| Spain | 10 | 5 | 20 | 0 |
| Portugal | 15 | 10 | 6 | 16 |
| Total | 25 | 15 | 26 | 16 |

▲ Table 5 Production before trade and after trade

**FIGURE 2**

**The terms of trade**




**Production possibility frontiers and trade**
The PPF for Portugal shows that it can either produce 30 units of wheat or 20 units of olive oil or some combination of these. With the same inputs, Spain can only produce 20 units of wheat or 10 units of olive oil or some combination of these. Portugal has an absolute advantage in the production of both olive oil and wheat but it only has a comparative advantage in the production of olive oil, while Spain has a comparative advantage in the production of wheat.

cheaper to produce in Spain than in Portugal. For Spain, producing 20 units of wheat has an opportunity cost of 10 units of olive oil. So, production of one unit of wheat has an opportunity cost of half a unit of olive oil (10/20); whereas for Portugal, the opportunity cost of producing 1 unit of wheat is two-thirds of a unit of olive oil (20/30). Spain has the lower opportunity cost of producing wheat, so it has a comparative advantage in producing wheat.

The theory of comparative advantage states that countries will find it mutually advantageous to trade if comparative costs of production differ. If, however, comparative costs are identical, there can be no gains from trade. Table 6 shows the maximum output of two countries, A and B, of two products, X and Y. The table shows that country A can either produce 20 units of good X or 40 units of good Y or some combination of both. The comparative cost or the opportunity cost of production is identical in both countries: one unit of X costs two units of Y. Hence there can be no gains from trade.

| | Output | | |
|---|---|---|---|
| | Good X | | Good Y |
| Country A | 20 | OR | 40 |
| Country B | 50 | OR | 100 |

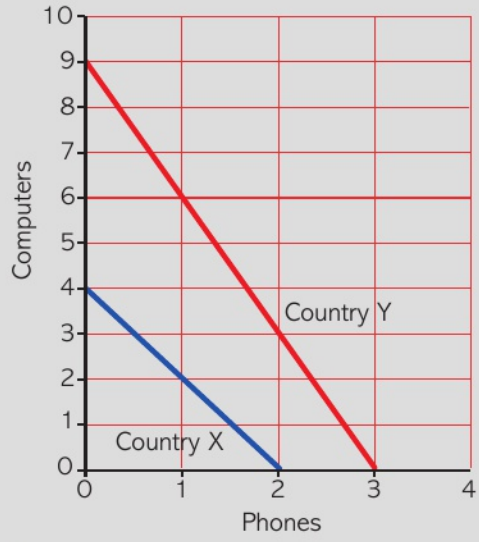
▲ Table 6

## ACTIVITY 1

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: USING PPF DIAGRAMS

The diagram illustrates the production possibility frontiers of country X and country Y, for a given amount of resources, for two products: computers and phones.




▲ Figure 3 PPF diagram, computers and phones

1 Which country has an absolute advantage in the production of phones?
2 Which country has an absolute advantage in the production of computers?
3 What is the opportunity cost, for country X, of producing one phone in terms of computers?
4 What is the opportunity cost, for country Y, of producing one phone in terms of computers?
5 Which country has a comparative advantage in the production of phones?
6 Which country has a comparative advantage in the production of computers?

## ACTIVITY 2

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: THE GAINS FROM SPECIALISATION AND TRADE

| | Cost per unit in worker hours | |
|---|---|---|
| | Meat | Bread |
| UK | 5 | 10 |
| France | 3 | 4 |

▲ Table 7

1 Which country has a comparative advantage in the production of (a) meat and (b) bread?
2 The UK has a total of 300 worker hours available for production while France has a total of 200. Before any trade took place, the UK produced and consumed 38 units of meat and 11 units of bread. France produced and consumed 20 units of meat and 35 units of bread. How much more could the two countries produce between them if they specialised and traded?
3 How would the answer to Question 1 be different, if at all, if the costs per unit in worker hours of meat and bread in France were:
(a) 4 and 4
(b) 3 and 7
(c) 3 and 6
(d) 6 and 12
(e) 6 and 15
(f) 1 and 3?

## THE ASSUMPTIONS AND LIMITATIONS OF THE THEORY OF COMPARATIVE ADVANTAGE

The simple theory of comparative advantage outlined above makes a number of important assumptions. Because these assumptions are often unrealistic in practice, the theory of comparative advantage has limitations. In other words the gains from specialisation and trade may be less than the theory suggests or it may be hard to apply the theory in practice.

- There are no transport costs. In reality, transport costs always exist, and they will reduce and sometimes eliminate any comparative cost advantages. However, transport costs per unit have fallen over time, for example, due to the use of standard shipping containers and more efficient loading and unloading of ships.
- Costs are constant and there are no economies of scale. This assumption makes our examples easier to understand. However, the existence of economies of scale will tend to reinforce the benefits of international specialisation. In Table 6 the total gains from trade will be more than 1 unit of wheat and 1 unit of olive oil if the two countries can lower their production costs by producing more of a particular good.

| | Cost per unit in worker hours | | | |
|---|---|---|---|---|
| | Apples | Olive oil | Wheat | Copper |
| United Kingdom (UK) | 10 | 15 | 20 | 50 |
| Portugal | 15 | 10 | 30 | 60 |
| Chile | 20 | 20 | 50 | 70 |

▲ Table 8

- There are only two economies producing two goods. Again, this assumption was made to simplify the explanation. But the theory of comparative advantage applies equally to a world with many economies producing a large number of traded goods. Table 8 shows that Chile has no absolute advantage in any product. However, it has a comparative advantage in the production of copper. Portugal has a clear comparative advantage in the production of olive oil while the UK has a comparative advantage in the production of apples. Exactly what and how much is traded will depend on consumption patterns in all three countries. For instance, if neither Portugal nor Chile consumes apples, the UK will not be able to export apples to these countries.
- The theory assumes that traded goods are homogeneous (i.e. identical). Commodities such as steel, copper or wheat are bought on price. However, a Toyota car is different from a Ford car and so it is far more difficult to conclude that, for instance, the Japanese have a comparative advantage in the production of cars.

- Factors of production are assumed to be perfectly mobile. If they were not, trade might lead to a lowering of living standards in a country. For instance, assume the UK manufactures steel but then loses its comparative advantage in steel making to South Korea. UK steel-making plants will be closed down. If the factors of production employed in UK steel making are not used elsewhere, then the UK will be at less than full employment. It might have been to the UK's advantage to have kept the steel industry operating (for instance by introducing quotas) and producing something rather than producing nothing with the resources.
- There are no tariffs or other trade barriers.
- There is perfect knowledge, so all buyers and sellers know where the cheapest goods can be found internationally.

## THE TERMS OF TRADE

In Table 5, it was shown that Spain and Portugal could benefit from trade. Whether trade takes place will depend on the **terms of trade** between the two countries. The terms of trade measure the rate of exchange of one product for another when two countries trade. In the above example, the terms of trade measure how many units of wheat would exchange for one unit of olive oil, if Portugal and Spain trade. If countries have specialised in the production of a good, they will need to trade in order to import the other good, which they no longer produce. So one good is traded for another.

From the opportunity cost ratios shown in Table 3, Portugal could produce 1.5 units of wheat for every 1 unit of olive oil. Portugal will only choose to specialise in the production of olive oil and then trade to obtain wheat if it can give Spain 1 unit of olive oil for at least 1.5 units of wheat. Otherwise, Portugal would be better off remaining self-sufficient, rather than specialising in the production of olive oil and then trading. Therefore, for Portugal to gain from specialisation and trade, the exchange rate must be at least 1.5 units of wheat for every 1 unit of olive oil.

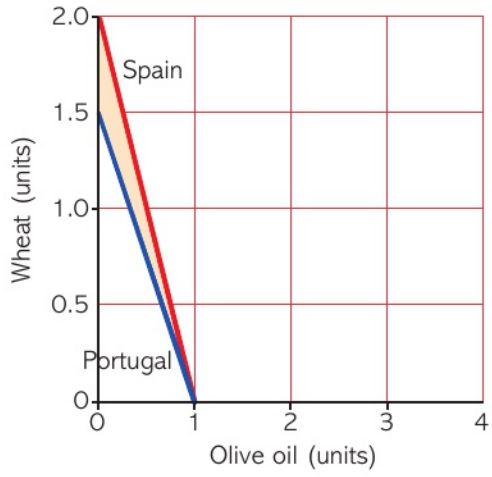
Similarly, the opportunity cost for Spain of producing 2 units of wheat is 1 unit of olive oil. Spain will only choose to specialise in the production of wheat and then trade to obtain olive oil, if it can give Portugal less than 2 units of wheat for every 1 unit of olive oil received. Otherwise, it will not gain from trade.

Hence, trade will only take place if there is an acceptable rate of exchange of one product for another. Trade will only be mutually beneficial if the terms of trade are between 1.5 units of wheat for 1 unit of olive oil and 2 units of wheat for every 1 unit of olive oil. For example, an exchange rate of 1⅔ units of wheat for every 1 unit of olive oil would benefit both Spain and Portugal. In this case, specialisation and trade would result in greater output for both countries and higher living standards.

### FIGURE 4

**The terms of trade**

Spain will find it advantageous to trade only if its terms of trade are at least one unit of olive oil for every two units of wheat exported. Portugal will only trade if it can receive at least 1½ units of wheat for every 1 unit of olive oil exported. Therefore, the terms of trade between the two countries will lie somewhere in the shaded area on the graph. The opportunity cost ratios of wheat for 1 unit of olive oil are drawn for both countries. The blue line is Portugal's cost ratio and the red line is Spain's cost ratio. Portugal will only gain if the international price is to the right of its domestic line. Spain will only gain if the international price is to the left of its domestic line. Hence, trade will only be mutually beneficial if the terms of trade are somewhere between the two lines.




## ACTIVITY 3

SKILLS PROBLEM-SOLVING, REASONING, ANALYSIS

### CASE STUDY: THE TERMS OF TRADE

Look again at the data in Table 7.

1 Show on a graph the cost ratios of meat for bread in the two countries before trade.
2 Would both countries find it mutually advantageous to trade if the international trade price ratio was 1 unit of meat for: (a) 4 units of bread; (b) 3 units of bread; (c) 1½ units of bread; (d) 1 unit of bread; (e) ½ unit of bread; (f) 2 units of bread; (g) 1⅓ units of bread?

## WHY COMPARATIVE ADVANTAGE EXISTS

David Ricardo believed that all costs could ultimately be reduced to labour costs. Hence the price of a good could accurately be measured in terms of worker hours of production. Following on from this, he argued that differences in comparative costs reflected differences in the productivity of labour. The theory suggests that countries with high labour productivity will have a comparative advantage in the production of sophisticated high technology goods while countries with low labour productivity will have a comparative advantage in the production of low technology goods. Looking at the pattern of world trade, it is true for instance that developing countries export low technology textiles while developed countries export high technology computer equipment.

However, neo-classical price theory suggests that labour is not the only source of differing opportunity costs of production. Heckscher and Ohlin, two Swedish economists, suggested that different costs were the result not just of different labour endowments between countries but also of different capital and land endowments. If an economy, such as India, has a large quantity of unskilled labour but little capital, then the price of capital relative to labour will be high. If, on the other hand, an economy like the USA has a large stock of capital relative to labour, then capital will be relatively cheap. Hence India will have a comparative advantage in the production of goods which can be made using unskilled labour. The USA will have a comparative advantage in the production of goods which require a relatively high capital input. Saudi Arabia is much more richly endowed with oil than France. France, on the other hand, has a large amount of skilled labour and capital equipment in the defence industry. Hence the theory would suggest that Saudi Arabia will specialise in producing oil, France in producing defence equipment and that the two countries will trade one product for the other.

The comparative advantage for a country is likely to change over time as the quality and quantity of factor endowments changes. For example, the quality of education is improving in many developing countries. As investment in education continues, the difference in labour skills between developed and developing countries might be expected to narrow. A country might also deliberately invest in building up an expertise in the production of certain goods or services. For example, a government might spend more money in their education budget on promoting subjects such as computing or engineering in their curriculum. In the long run, this is likely to mean that the country can create a comparative advantage in the production of hi-tech products, such as computer software packages.

## THE BENEFITS OF SPECIALISATION AND TRADE

If countries specialise in the production of certain goods and services, they will need to trade. The benefits of specialisation and trade will be maximised if there is free trade. Free trade means there are no barriers to trade, such as tariffs.

**The theory of comparative advantage** shows that world output can be increased if countries specialise in what they are relatively best at producing. This theory shows that all countries can potentially be better off in terms of output, provided the terms of trade lie between the opportunity cost ratios. Under the assumptions of the model, specialisation and trade are an engine for growth. Assuming this is the case, living standards will be higher.

**Economies of scale** Specialisation and trade allow economies of scale to be maximised and therefore long-run average costs reduced. Economies of scale are a source of comparative advantage. Small countries can buy in goods and services which are produced in bulk in other countries, while themselves specialising in producing and exporting goods where they have developed economies of scale.

**Consumers** Specialisation is likely to increase both labour and capital productivity for firms. Higher productivity reduces unit costs. Unit costs will also be minimised if firms are also benefiting from economies of scale. This will lead to lower prices for consumers, because many firms will choose to pass on these cost advantages to consumers to remain price competitive. Consumers will therefore gain consumer surplus. This means global inflation rates are likely to be lower through specialisation and trade.

Trade also allows consumers to buy goods from the whole world, and not just what is produced domestically. Consumer welfare is thus increased because some consumers will prefer to buy foreign goods rather than domestic goods.

**Economic growth** Specialisation is likely to increase economic growth because specialisation increases productivity, leading to higher actual and potential growth. A fall in unit costs increases both the short-run aggregate supply curve and the long-run aggregate supply curve. Opening markets to trade also implies more competition. In competitive markets it is essential for firms to be efficient, both to ensure survival and to maximise profits. They have an incentive to minimise costs and to produce goods and services that consumers want.

LINK Student Book 2, Chapter 10

One way of driving economic growth is through exports. Economies such as China have relied on export-led growth. For these countries, specialisation and trade have led to large current account surpluses.

**Innovation** Competition provides a powerful incentive to innovate. Not only are new goods and services being put onto the market, but firms are also competing to find production methods which cut costs and improve the quality and reliability of goods. A few firms are at the cutting edge of innovation in their industries. In a competitive market, however, other firms copy this innovation to remain competitive. Countries which isolate themselves from trade and are self-sufficient simply do not have the resources or the incentives to keep up with the pace of innovation in the outside world.

## ACTIVITY 4

SKILLS ANALYSIS, CRITICAL THINKING

### CASE STUDY: VIETNAM FINDS A NEW COMPARATIVE ADVANTAGE

Transport and communications have improved dramatically over recent decades. This means supply chains can be split into many hundreds of stages and allocated to producers all around the world, according to efficiency and cost. Comparative advantage is now more about finding a relative advantage within a global supply chain. For example, Vietnam joined Honda's supply network by starting to manufacture motorcycle parts using production and technical expertise learned from the parent company. So, Vietnam's existing advantage of abundant low-cost labour joined with the management and technical know-how of Japan to create a new specialism.

1 How did Vietnam create a new comparative advantage?
2 How might specialisation help Vietnam's economic growth?

## THE COSTS OF SPECIALISATION AND TRADE

Specialisation and trade between countries can be beneficial, but they can also have costs.

**Overdependence and risk** Globalisation comes about through increased specialisation and trade. Economic agents, including firms, are increasingly dependent upon each other. However, countries can become overdependent on foreign trade, which exposes a country to many risks. Overdependence means a country becomes more vulnerable to external shocks. Small countries in particular can become dependent on exports of one or two commodities. If the prices of those commodities fall, or demand falls, then these countries can experience large falls in GDP.

Increased specialisation inevitably increases some risks when trade links break down. For example, the imposition of trade sanctions on Russia can destroy a market for firms in the EU selling into Russia. Or a fault at a manufacturing plant in Thailand can affect firms in the US buying its products.

Over-dependency on imports for some goods and services may also be problematic if a country suddenly lacks finance to pay for these imports (for example, because it does not have enough foreign currency to purchase them). There can be credit crises which cut off finance for a country to pay for imports. The cost of borrowing to buy imports can suddenly rise. Trade also opens the risk that supplies of imports might be cut by foreign countries, perhaps for political reasons.

However, international trade can also reduce risks because firms are able to source products from a wider variety of countries and sell into more countries.

**Jobs** Changes in demand can lead to unemployment. For example, China's economy is shifting away from labour intensive manufacturing to higher tech industries and services. In 2013, for the first time, the contribution to GDP from services, such as transport, shops, restaurants and finance, pulled ahead of industry, including manufacturing, mining and construction. However, many of those who used to work in factories are struggling to find new jobs in these sectors because they do not have the necessary skills. The less mobile the workforce, the greater the likelihood that changes in demand due to trade will reduce output and employment over long periods of time.

**Distribution of income** Trade can lead to a less equal distribution of income. If the benefits of trade go mainly to other countries, a country may find itself relatively less well off. According to the theory of

comparative advantage, trade will only be mutually advantageous if the terms of trade are between the opportunity cost ratios. In practice, this may not be the case. Equally, trade alters patterns of demand within a country. The benefits of trade may go mainly to rich elites within a country and the poor may end up worse off. This widens inequality within a trading country.

**The environment** Trade can lead to environmental degradation and unsustainable development. Demand for timber, for example, has led to large-scale deforestation in the developing world. The environmental costs of transportation should also be considered when considering the merits of trade. For example, the air miles involved in transporting goods around the world can generate large external costs.

**Loss of sovereignty** Trade leads to nation states losing sovereignty. This means they lose the ability to make decisions about matters which affect them. The loss of sovereignty may be explicit because a government signs an international treaty. Or it may be because the complex network of private trade gives power to foreign companies or foreign consumers.

**Loss of culture** Trade brings foreign ideas and products to an individual country. Some argue that this leads to a loss of rich traditional native culture.

## CHECKPOINT

1 Two countries have identical resources. Country A can produce 20 cars or 100 computers. Country B can produce 30 cars or 120 computers.
   (a) Which country has an absolute advantage in the production of cars?
   (b) Which country has an absolute advantage in the production of computers?
   (c) Which country has a comparative advantage in the production of cars?

2 State three assumptions of the theory of comparative advantage.

3 What is meant by the terms of trade?

4 In the example in Question 1, what do the terms of trade have to be for specialisation and trade to be advantageous for both countries?

5 If all countries specialise in the production of those goods/services in which they have a comparative advantage, what will happen to world GDP?

6 State two benefits and costs of specialisation and trade.

## SUBJECT VOCABULARY

**absolute advantage** exists when a country is able to produce a good more cheaply in absolute terms than another country

**comparative advantage** exists when a country is able to produce a good at a lower opportunity cost than another country

**opportunity cost** the benefits foregone of the next best alternative

**production possibility frontier** a curve which shows the maximum potential level of output of one good given a level of output for another good

**specialisation** when nations are not self-sufficient, but concentrate on producing certain goods and services and trading the surplus with others

**terms of trade** measure the rate of exchange of one product for another when two countries trade

**theory of comparative advantage** states that countries will find it mutually advantageous to trade if the opportunity cost of production of goods differs

# THINKING LIKE AN ECONOMIST

## WILL ROBOTS PUT PEOPLE OUT OF WORK?

New technology already displaces workers. Automation of manufacturing activity has pushed many workers out of the industry. Even though some have difficulty finding new work, workers adjust and develop skills in sectors where employment is rising.

But what if robots can do anything humans do? What if they can design and build robots, manage robotic firms, run restaurants, perform operas, and so on? Will there be any demand for human labour?

There are two important things to remember here:

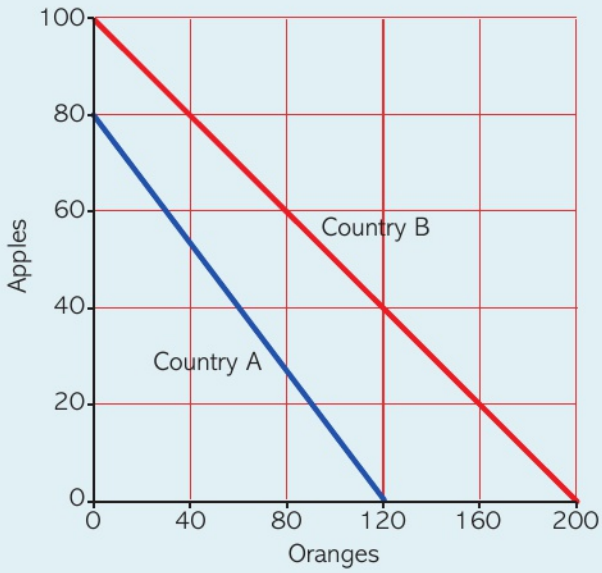
One is the theory of comparative advantage. Even if robots have an absolute advantage in performing all tasks, they should only be used to perform tasks in which they have a comparative advantage; those where they are much better than humans, rather than just a little bit better. That way, total output can be higher.

Secondly, there will initially be economies of scale in the production of robots – as more are built, the average cost will fall. But eventually those scale economies will be exhausted, and diseconomies of scale will set in. At the same time, the cost of human labour will fall as workers are displaced from some uses. This means that, for tasks in an economy to which robots are less suited, it will be cheaper for firms to employ humans. For these tasks, the labour cost per unit will be lower than the robot cost per unit.

So hopefully there will always be a demand for humans in labour markets, however good robots become.

# EXAM PRACTICE

## SPECIALISATION AND TRADE: ITS BENEFITS AND COSTS

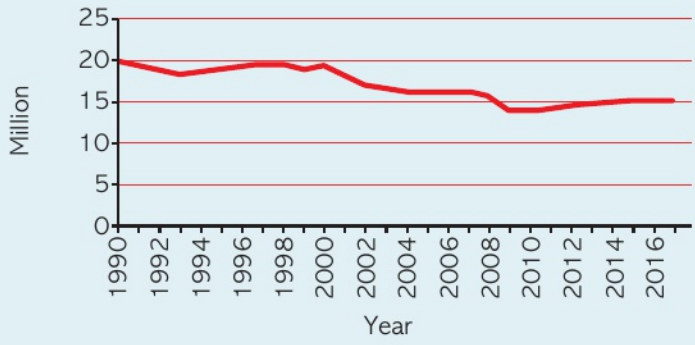



▲ Figure 5

### EXTRACT A: MAKING THE CASE FOR TRADE

Trade is beneficial in many ways. Trade creates larger markets, which allow for greater specialisation, lower costs and generate higher incomes.

In 2017, the IMF, the World Bank and the World Trade Organization produced a report to make the case for trade and the policies needed to make trade an engine of growth for all. One main benefit of trade is its impact on productivity. As the report states, 'Trade boosts productivity by promoting reallocation of resources, with production shifting toward sectors and firms with comparative advantage and higher efficiency'.




▲ Figure 6 United States manufacturing employment, persons, million

Other reasons why trade increases productivity include the ability of firms to sell to a bigger market. This can encourage firms to invest in innovation, both to take full advantage of the larger market and to successfully compete. Argentina, for example, increased technology spending by 20–30% in response to Brazil's reduced tariffs under Mercosur.

However, the report did recognise that trade is leaving too many individuals and communities behind. At their meeting at Hangzhou in September 2016, G20 leaders called for domestic policies to share the gains of trade more widely.

### EXTRACT B: THE COSTS OF TRADE

Trade can create significant short run costs. For example, the impact of Chinese imports hit America's Midwest region particularly hard. This is because manufacturing activity tends to be regionally concentrated. The unemployed were reluctant or

unable to move to more prosperous regions. In a report published in 2013, a study found that competition from Chinese imports explained 44% of the decline in employment in manufacturing in America between 1990 and 2007.

A report by the IMF, WTO and World Bank in 2017 states, 'Dislocations depend not just on the size or abruptness of the trade shock, but on broader circumstances, such as the health of the economy, labour market rigidities, and other obstacles to resource reallocation, as well as the adequacy of social protection policies'

Governments need domestic policies to make sure that all can gain from trade. These might include job search assistance, welfare payments, improved education to prepare workers for the changing demand of the labour market and policies, in areas such as housing, to help workers to relocate to areas with jobs.

Q

**1** Figure 5 illustrates the production possibility frontier of country A and country B, for a given unit of factor resources, for two products: apples and oranges. Given these frontiers, which one of the following statements is true? **(1 mark)**

(a) Country A has a comparative advantage in the production of oranges

(b) Trade will only be mutually beneficial if the exchange rate lies between 1 apple : 1 orange and 1 apple : 2 oranges

(c) The opportunity cost for country A of producing one apple is 1½ oranges.

(d) Country A has an absolute advantage in the production of oranges.

**2** Read the extracts provided and answer the following:

(a) Explain what is meant by the phrase 'comparative advantage' (Extract A). **(4 marks)**

(b) With reference to Extract A, analyse the likely effect of trade on an economy's productivity. **(6 marks)**

(c) With reference to Extract A and using the theory of comparative advantage, examine the likely impact of specialisation and trade on the living standards in an economy. **(8 marks)**

(d) With reference to the information available, discuss the costs of specialisation and trade for an economy. **(14 marks)**

**3** A recent report by the IMF stated that the opening of trade over the past several decades has helped to drive global economic growth, lifting incomes across advanced, emerging and developing countries. Evaluate the benefits of specialisation and trade, for an economy or economies of your choice. **(20 marks)**

**EXAM HINT**

For Question 2c, what is the main benefit of specialisation and trade, according to the theory of comparative advantage? Explain the theory carefully, distinguishing between absolute and comparative advantage. To evaluate, consider why an economy might not benefit from specialisation and trade? What does it depend on?

**EXAM HINT**

For Question 2d, make sure you use both extracts to identify the costs of specialisation and trade and analyse these. To evaluate, consider what factors might increase the scale of these costs. Under what circumstances are these costs minimised? Is there a difference between the short run and long run? To what extent can the government minimise these costs? Are there any offsetting benefits?

**EXAM HINT**

In Question 3, an important benefit arises if countries specialise in those goods or services in which they have a comparative advantage. Make sure you explain the theory of comparative advantage carefully. Consider other benefits of specialisation and trade. Evaluate by considering the assumptions and limitations on which the theory of comparative advantage is based. Are there other reasons why the benefits may not be realised in practice?

# 24 PATTERNS AND VOLUME OF WORLD TRADE

UNIT 4
4.3.2

## LEARNING OBJECTIVES

- Understand the factors influencing the patterns of trade between countries and causes of changes in these patterns
- Understand the changes in trade flows between countries and the reasons for these changes

## GETTING STARTED

For an economy of your choice, research what types of goods or services are exported and imported. Are the majority of exports commodities, manufactured goods or services? Who are the top two trading partners, both for exports and imports? If trade is concentrated among a few countries, why is this the case? Are there more international tourists visiting this country compared to previous decades? Do you think these patterns of trade have changed over the last 30 years?

LINK Student Book 1, Chapters 24 and 30

## PATTERNS OF TRADE

The pattern of world trade refers to the types of goods and services countries or groups of countries export and import, who they trade with and how their trade volumes compare.

Often, economies are grouped together so broad conclusions can be established. Different regions in the world will have particular patterns of trade. The types of goods and services exported and imported may also differ, in general, between developed and developing countries.

For example, trade patterns for the Middle East and North America are very different. Figure 1 shows that in 2015, over half of the value of **merchandise** (goods that are being sold) exports from the Middle East region was fuels and mining products. Figure 2 shows that Asia imported more than half of these. According to the WTO, by economic grouping, 70 per cent of merchandise exports from the Middle East in 2015 were to developing countries.

In contrast, for North America, manufactured goods made up 76 per cent of their merchandise exports in 2015. Its main export market is also the North

FIGURE 1

**Middle East: 2015 Exports by product (merchandise trade)**

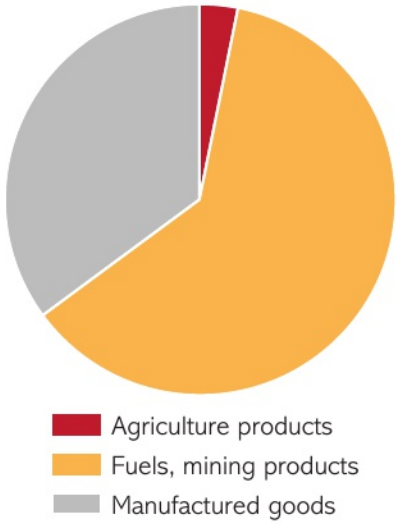
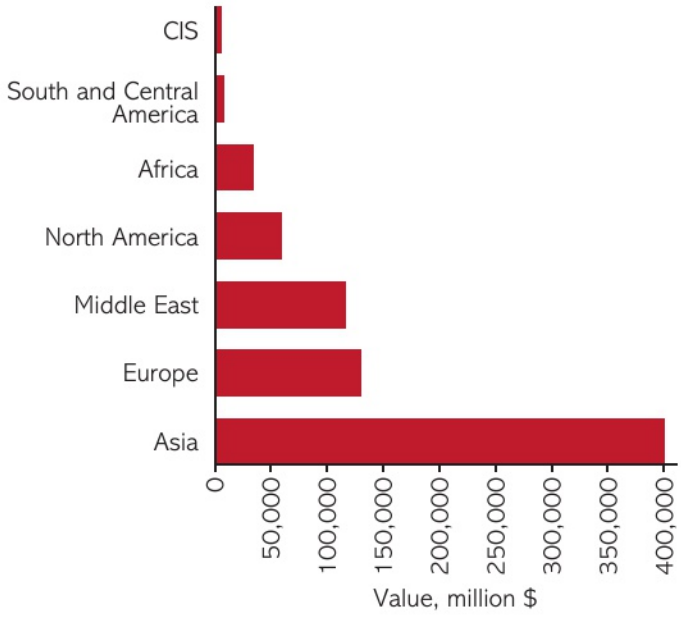



FIGURE 2

**Middle East: 2015 Exports by destination**



America region; approximately half of the value of their exports in 2015 were sold in this region. Asia represented about 20 per cent of their export market. 60 per cent of North America's export sales are to developed economies.

An economist will also be interested in how patterns of trade are changing over time. For example, how quickly is the share of total trade growing for emerging and least developed economies? How is the mix of exports or imports between goods and services for a country such as the UK changing over time?

Table 1 shows that export revenue from goods for the UK in 1995 was about 2.5 times bigger than the export revenue from services. This pattern changed over time. By 2016, export revenue from goods was only about 1.2 times bigger than services. In terms of the composition of trade in services for the UK, travel imports, which include tourism, represented about 16 per cent of total import services in 1995. By 2016, this had risen to about 31 per cent.

| | Exports (£ billion) | | Imports (£ billion) | |
|---|---|---|---|---|
| | Goods | Services | Goods | Services |
| 1995 | 153.6 | 59.1 | 166.6 | 42.9 |
| 2016 | 302.1 | 245.4 | 437.5 | 153.0 |

▲ Table 1 UK exports and imports of traded goods and services

Tourism exports are becoming an increasing proportion of total exports for some **emerging countries** too. According to the World Trade Organization, many emerging economies experienced rapid growth of more than 10 per cent per year in commercial services exports (travel is included in this category) in 2016. For Sri Lanka, Mongolia and Nigeria this was the second or third year of rapid export growth in this sector. International tourism is an important driver of growth for many of these economies. Although these export values are still small, the positive trend may continue, so this will be reflected in changes in their **pattern of trade** over time.

There are many different factors that influence the pattern of trade between countries today and the change in this pattern of trade over time.

## IMPACT OF EMERGING ECONOMIES

Economies today rarely stay the same size. On the whole, they grow. However, countries' economies don't grow at a uniform rate. Some are currently growing very rapidly, while others are growing very slowly. When GDP grows, the country is likely to import more goods and services than before. It also needs to export more to pay for these imports. So economic growth will affect patterns of trade internationally. Over the past 50 years, for example, China has gone from barely trading with the rest of the world to being one of its leading exporters today. The increased share of world trade held by emerging economies over recent decades reflects the fall in market share by the more developed economies.

Emerging economies, which tend to experience higher economic growth rates than developed economies, are disrupting existing trade patterns as their share of world exports and imports grows. In the early 1980s, merchandise trade among advanced economies as a share of total world trade was 70 per cent. By the early 2010s, this had fallen to less than 40 per cent. This was caused by the trade share of emerging economies growing rapidly over this period.

Many emerging economies have cost advantages over advanced economies, which has caused changes in the composition of exports for developed economies. Over time, developed economies have responded by specialising more in the high tech secondary sector and services sector. Developed economies have tended to move to importing more goods and exporting more services.

Patterns of trade have also changed between developed and emerging economies due to the growth in global supply chains. Partly due to the growth in multinationals, a finished product exported by a country such as China involves many trade flows before its final production destination country. Components might have been produced elsewhere and then imported into China for the final part of the production process.

The increase in FDI flows between countries will also affect trade patterns. Emerging economies have received FDI inflows from developed countries, but equally FDI flows occur between emerging economies. For example, China is investing in countries such as Kenya and Bangladesh – setting up factories to take advantage of cheaper labour costs in these countries. This will increase export flows from these countries and change the composition of exports.

Many firms in developed economies have shifted production overseas in recent decades to take advantage of lower costs. However, there is evidence that some of this production is coming back to these developed economies. Technological advances are making it possible to lower costs of production, despite higher wages in developed economies. This means some goods made in advanced economies can directly price compete with emerging economies and be sold on international markets.

Emerging economies increasingly represent new markets for developed economies. If economic growth rates of emerging economies remain higher than those of developed economies, this will open up fast growing markets. These export markets will be increasingly more significant. As many individuals in emerging economies join the 'middle classes', this will change the types of goods and services imported by these economies.

## CHANGES IN COMPARATIVE ADVANTAGE

The theory of comparative advantage suggests that countries will specialise in those goods and services in which they have a comparative advantage. For example, the UK has a comparative advantage in financial and insurance services. Approximately one quarter of total exports of services are financial services. Over time, changes in comparative advantage occur as relative labour skills and technology differences between countries change. For example, over the past 60 years, the UK has increasingly had a comparative advantage in the production and export of services rather than goods. In 1955, for example, the UK exported approximately £15 of goods for every £5 of services. By 2014, this ratio had changed to approximately £15 of goods for every £10 of services.

The growth of emerging economies means many developed economies have shifted their exports towards higher valued goods or services. This makes sense since advanced economies are likely to have a comparative advantage in these. They can produce them at a lower opportunity cost than emerging economies, because they have a relatively large supply of skilled labour and advanced technology.

Transport costs and communication costs have fallen significantly over the last 50 years, which has allowed the splitting up of production along global vertical supply chains. These stretch across many countries. Intermediate goods cross borders many times before being made into final products. Each country increasingly specialises in a particular stage of the production process, where they have a comparative advantage.

## GROWTH OF TRADING BLOCS AND BILATERAL TRADING AGREEMENTS

Recent decades have seen a rapid spread of trading blocs and **bilateral trade agreements**, which are designed to increase trade between participating countries at the expense of other countries. Hence they change the pattern of trade in terms of geographical composition of exports and imports. For example, trade within the EU (European Union) represented 63 per cent of all EU total exports in 2015. In NAFTA (the North American Free Trade Agreement) intra-trade totalled 50 per cent. According to a recent report by the IMF, World Bank and WTO, bilateral and regional trade agreements have increased dramatically in scope and in number. The number of agreements filed with the WTO rose from 50 in 1990 to around 280 in 2015. If a trading bloc, such as the EU, invites new members, those countries will trade more with countries inside the bloc and less with countries outside. So patterns of trade change as trading blocs grow in size.

### ACTIVITY 1

SKILLS REASONING, ANALYSIS, INTERPRETATION

#### CASE STUDY: THE EU AND MEXICO UPGRADE THEIR TRADE AGREEMENT

The EU and Mexico have agreed a deal to upgrade their trade agreement. This has been a priority for the EU, which has responded to rising US protectionism by focusing on negotiations with other leading economies.

Since 1997 the agreement between the EU and Mexico was focused mainly on liberalisation of trade in industrial goods. However, the new agreement is for agriculture. EU exporters had often complained about the difficulty of selling in the Mexican market. The deal eliminates some regulations and makes customs procedures simpler and quicker. The EU has also achieved duty free access for almost all pork products as well as pasta and chocolate. The EU estimates that EU exporters will save €100 million a year in customs duties.

For Mexico, the benefits include liberalised access for agricultural products such as orange juice, fruit and vegetables. The EU is Mexico's third largest trading partner, with total trade in goods between the two economies worth €62 billion in 2017.

**1** Why are trade flows between Mexico and the EU likely to increase? Use the text for your answer.

## CHANGES IN RELATIVE EXCHANGE RATES

The exchange rate of one currency for another affects the relative prices of goods between countries. For example, if the value of the Japanese yen falls in relation to the US dollar, Japanese exports will become cheaper for US buyers but the price of imported goods for Japanese buyers will rise. So changes in relative exchange rates affect patterns of trade. Short term exchange rate changes have almost no impact on patterns of trade unless they are very large. It is long term changes which are sufficiently large that impact trade.

## CHANGES IN PROTECTIONISM BETWEEN COUNTRIES

Restrictions on free trade between countries affect trade flows between these countries. Countries will be able to export a higher volume of goods and services overseas if other countries reduce tariff or non-tariff barriers. Some barriers might also be higher on some goods and services, which will affect the composition of different types of goods and services which are traded. Joining a trading bloc removes barriers to trade between member countries, so trade becomes more concentrated within these blocs. An increase in protectionism between some countries will reduce trade flows between these countries. This might cause these countries to more actively target other international markets, perhaps by making new trade agreements. This means the pattern of trade might significantly change over time.

## THE VOLUME OF WORLD TRADE

The volume of trade has increased significantly since 1945. Between 1945 and the Global Financial Crisis in 2007/08, the volume of trade grew, on average, 1.5 times faster than world GDP. For example, in the three decades leading up to 2010, world trade rose by 730 per cent, far exceeding the growth in world GDP of 417 per cent.

Figure 3 shows the impact of the Global Financial Crisis on the volume of trade. The volume of world exports fell by 12 per cent in 2009, while world GDP reduced by 2 per cent. After 2009, exports of goods and services increased again.

However, the growth in world trade has slowed down in recent years. According to the World Trade Statistical Review 2017, the ratio of trade growth to world GDP growth fell to 1:1 after the Global Financial Crisis and remained at this level until 2015. This means the volume of trade increased at the same rate as world GDP. 2016 was the first year since 2001 that the ratio dropped to below 1, to 0.6.

Many factors might explain the recent slowdown in the volume of world trade since 2007.

Recovery from the 2008 financial crisis has been slow for many economies; particularly some in the Eurozone. This reduces consumption and therefore reduces imports of consumer goods. If aggregate demand is low, firms will reduce production, which also reduces imports of components and raw materials. A lack of business confidence and low aggregate demand will also reduce investment, so imports of capital goods will fall.

## ACTIVITY 2

SKILLS: REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: A TRADE WAR BETWEEN THE USA AND CHINA IS ON THE HORIZON

Just 11 hours after the US listed 1333 Chinese products to be hit by tariffs, Beijing said it would put similar tariffs of 25 per cent on 106 American products. China said it would only impose the tariffs when the US does, so there is still time for negotiation.

The US is targeting products in high tech and industrial sectors where China wants to be a world leader by 2025. In total, these amount to annual imports worth about $50 billion. That is not a large sum when compared with the $2.4 trillion of US total goods imported in 2017 or the $506 billion of US imports from China.

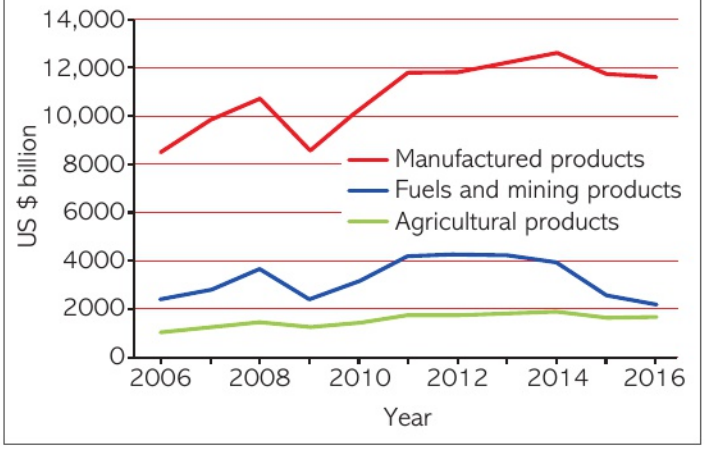
In response, China is putting 25 per cent tariffs on 106 American products including soya beans, other agricultural products, chemicals and selected aircraft. Tariffs on soya beans would be a big concern for US producers. Of a total of $22 billion in US soya bean exports last year, about 56 per cent went to China.

The US accounts for about 20 per cent of all Chinese goods exports, whereas China buys only about 10 per cent of exported US products. However, the US share of exports to the Asian giant has been increasing steadily since 2000, while China relies less on the US than it did in the early 2000s.

1 How has the pattern of trade between the USA and China changed since the early 2000s?
2 To what extent might a trade war between the USA and China change world trading patterns?

**FIGURE 3**

**World merchandise trade by major product grouping 2006–2016**



## ACTIVITY 3

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: GLOBAL TRADE GROWTH HITS SEVEN YEAR HIGH IN 2017

Global merchandise trade is expanding at its fastest pace for nearly seven years in volume terms. In volume terms, global trade in goods in the three months to January 2017 was 2.4 per cent higher than in the previous quarter. This was led by emerging markets. Exports from Latin America rose 8.1 per cent in volume terms, those from central and eastern Europe 5.9 per cent and Asia 4 per cent; Asia also increased its imports by 5 per cent. In contrast, advanced economies only saw a small growth of 1.7 per cent for exports and 0.5 per cent for imports.

This continues the pattern of recent years, with emerging markets having increased their exports, in volume terms, by 29.1 per cent since January 2008, way ahead of the 8.3 per cent growth by developed markets. The composition of exports for some key emerging market economies shows that both commodity and manufacturing exports have accelerated over the last few quarters.

The current pick up in global trade is coming from large emerging market economies recovering from recessions. The trade elasticity, the ratio of world trade growth to global economic growth, fell to 0.6 in 2016. However, the forecast is that this will rise to 1 in 2017. So, with strong growth in emerging markets, global trade is predicted to rise to 3% in volume terms in 2017.

1 Suggest why emerging economies recovering from recessions are likely to increase the volume of world trade.
2 What has been the likely impact of emerging economies on the pattern of world trade since 2008?

Although China still has rapid economic growth compared to developed economies, China's growth rate has fallen in recent years. This will reduce their demand for some imports, especially raw materials.

Another possible cause includes TNCs bringing manufacturing back to developed economies as developing economies start to lose their cost advantages. The rise in wage costs in some emerging economies, combined with advances in technology which make production more capital intensive, means developed economies can increasingly manufacture goods locally, rather than importing so much.

In recent years there has been rising protectionism. In 2016 the WTO said that between October 2015 and May 2016, G20 economies had introduced new protectionist trade measures at the fastest pace since the 2008 financial crisis.

However, the volume of trade may start to pick up again. China is aiming to rebalance its economy so that consumption becomes an increasing proportion of its GDP. A fast rise in China's consumption should increase China's demand for imports, resulting in higher exports for countries around the world. New regional trade agreements are also being signed, which should boost trade between their member countries.

## CHECKPOINT

1 State two ways in which emerging economies have changed world trading patterns in recent decades.
2 What do many emerging economies have a comparative advantage in producing?
3 What impact does the growth in trading blocs and bilateral trade agreements have on patterns of world trade?
4 What might be the effect on patterns of world trade if the value of the renminbi – the currency in China – rises on foreign exchange markets?
5 How might world patterns of trade change if both the US and China impose protectionist measures on each other's goods and services?
6 State three possible reasons why the growth in the volume of trade slowed down in the period after the Global Financial Crisis.

## SUBJECT VOCABULARY

**bilateral trade agreement** an agreement between two countries, or between a country and a trading bloc, which gives favourable trade arrangements; it reduces some barriers of trade between the two

**emerging countries** middle-income countries which could become high-income countries over the next 20 or 30 years

**merchandise** goods to be bought or sold

**pattern of trade** refers to composition of exports and imports and geographical distribution of trade

## THINKING LIKE AN ECONOMIST

### DEMOGRAPHIC CHANGE WILL DRIVE WORLD TRADE

In 1950, the world's population was 2.5 billion. More than 20 per cent of those people lived in Europe, and along with the 7 per cent living in North America, they dominated the global trading system. But by 2017 the planet's population had increased to more than 7.5 billion. Only 10 per cent live in Europe and 5 per cent in North America. Three out of every five people now live in Asia. This demographic shift has changed the pattern of global trade.

Demographic shifts over the rest of the 21st century will be just as dramatic. They will involve not just a change in the distribution of people, but big changes in their relative age; these shifts will influence how goods flow around the world.

A World Trade Organization report has stated, 'As the size of the working age population increases in some countries and decreases in others – and as a global middle class emerges – the size and composition of import demand is also changing, with further effects on trade flows. For instance, trade in services, such as healthcare and education, is likely to increase.'

By 2100, the UN forecasts Asia's share of world population will have fallen from 60 per cent to 43 per cent. By contrast, Africa's share is forecast to rise from 17 per cent today to 40 per cent.

Workers in Africa will be relatively young, while the population in Asia – certainly in China and Japan, though less so in India – will become older. The relationship between population ageing and trade is unclear. On the one hand, younger countries with a large supply of workers tend to have a comparative advantage in manufacturing, particularly at lower skill levels where wages are low. Therefore the guess is that Africa will at some point become a significant exporter of basic manufactured goods to the rest of the world. However, younger population countries tend to have high consumption; a high marginal propensity to import would mean economic growth in Africa would increase import spending significantly. In contrast, workers in ageing countries tend to save more to support their retirement. As a result, nations such as Japan have remained net exporters.

The impact of demographics on future trade patterns will also differ from the past because of factors such as automation and migration. If, for example, robotics advances to a stage where it can compete with even very low wages, then any competitive advantage Africa may have in basic manufacturing will be lost. Any forecast of how population distribution will shape future trade also depends on migration. If there is large-scale immigration from Africa to Europe then the trade outcomes will be very different.

## EXAM PRACTICE

# WILL BREXIT CHANGE THE UK'S PATTERN OF TRADE?

**SKILLS** REASONING, ANALYSING, PROBLEM SOLVING, INTERPRETATION, CRITICAL THINKING

### EXTRACT A: THE IMPACT OF BREXIT ON THE UK'S PATTERN OF TRADE

Although trade with the EU is clearly important for the UK, leaving the EU presents opportunities for new trade deals. The focus needs to be on signing trade agreements with countries that offer future, and not just current, strong demand for UK exports.

Analysis by the *Financial Times* suggests that the countries that could increase in importance most significantly as potential export markets are Malaysia, Bangladesh, Egypt and Pakistan. Countries were ranked for their export potential based on estimates for economic growth, their economic size in terms of

FIGURE 4

**Top 20 UK trading partners: UK's exports of services, 2016 £ million**

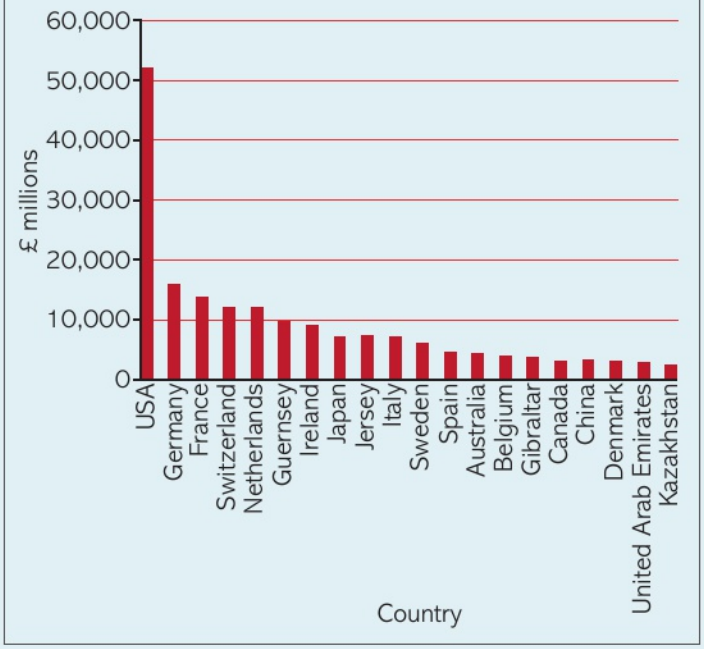



FIGURE 5

**Top 20 UK trading partners: UK's exports of goods: 2016 £ million**

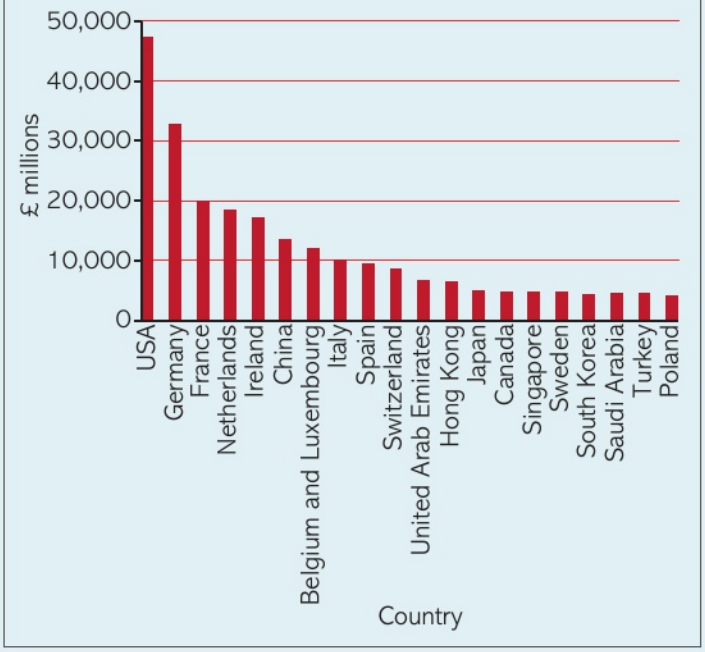



FIGURE 6

**Top 20 UK trading partners: UK's imports of goods, 2016 £ million**

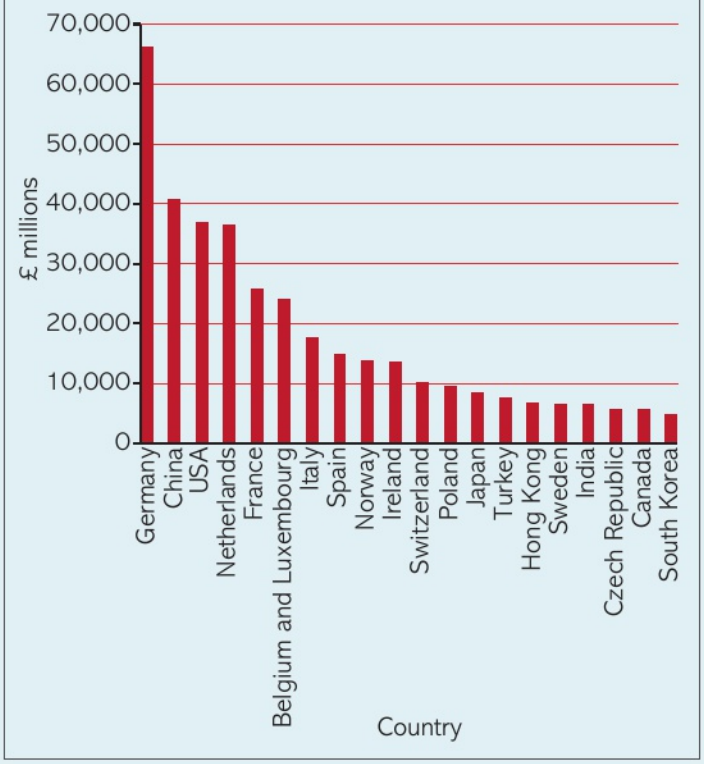
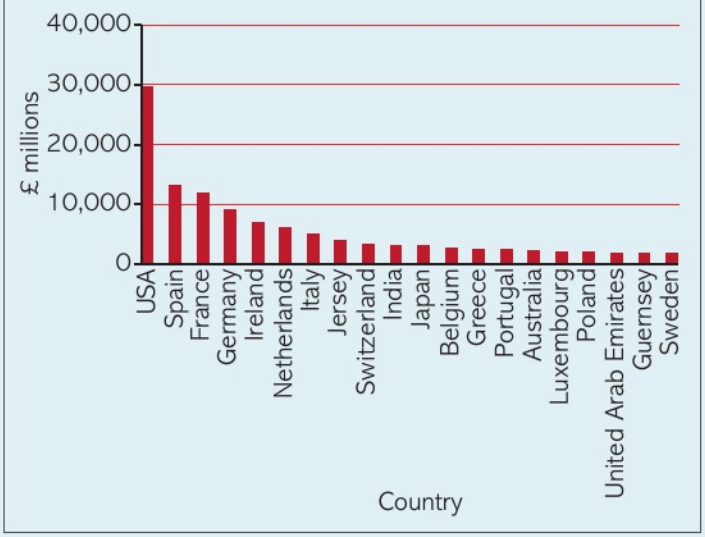



FIGURE 7

**Top 20 UK trading partners: UK's imports of services, 2016 £ million**



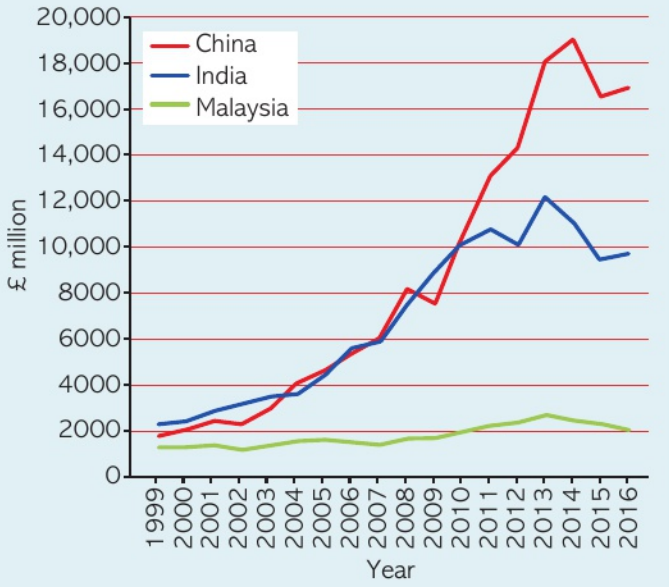

GDP and population growth, and other factors such as distance, language and similarities in legal systems.

Countries which have very different economic specialisms from the UK might also be expected to provide the best export opportunities. However, evidence is mixed on this. Some analysis suggests the UK currently trades more intensively with countries that have similar specialisms.

Emerging markets present opportunities. 'Traditionally, demand for services grows faster than income, so continued growth in emerging markets should create commercial opportunities for UK service suppliers; this is especially true for higher-end services, which the UK specialises in,' said Simon Evenett, professor of international trade and

**FIGURE 8**

**UK's exports of goods and services to China, India and Malaysia: £ million**




economic development at the University of St Gallen in Switzerland. Currently, services generate 80 per cent of the UK's GDP and two-fifths of exports.

Size matters when it comes to trade. By 2050 China is likely to overtake the US to become the largest economy when measured using market exchange rates. India's population will be greater than China's. Emerging market economies, such as Nigeria, Egypt, Pakistan, the Philippines and India are predicted to undergo rapid economic and population growth.

However, given the UK's geographical closeness to the EU, this bloc will still be an important destination for UK exports in 2050. Halving the geographical distance to a market roughly doubles the volume of exports sold, said PwC. 'While you can do a certain amount by email remotely, some things you have to do on the ground.'

## EXTRACT B: THE VALUE OF STERLING HAS FALLEN SINCE THE UK VOTED FOR BREXIT

During 2016, the value of the pound (the UK's currency) fell by 17 per cent against the US dollar and 14 per cent against the euro.

Early in 2017, managers reported an increase in orders from the US, Europe, China and India. Weir, a UK listed engineering group, said it was examining whether to move production of some of its industrial equipment, from overseas to the UK, to benefit from the weaker pound. 'We believe the recent sterling depreciation is currently giving a competitive edge to the products we manufacture in the UK and sell overseas. However, the cost of imported raw materials, such as metal and rubber has also risen and these offset some of the benefits.'

The Office for National Statistics (ONS) found the trade deficit had narrowed, although it was reluctant to draw any conclusions regarding the impact of the fall in the pound. The ONS said it wanted a few months more data.

**Q**

**1** Read the above extracts and answer the following.
- (a) Explain what is meant by the phrase 'patterns of trade' in Extract A. **(4 marks)**
- (b) With reference to Extract B, analyse the likely influence of the fall in the value of the pound on the UK's trading patterns. **(6 marks)**
- (c) With reference to Extract A, discuss the likely impact of the rapid growth of emerging economies on the UK's trading patterns. **(14 marks)**

**2** The share of UK exports of goods and services going to the EU fell from 54% in 2000 to 43% in 2016. In 2016, the UK voted to leave the EU (Brexit). Evaluate the factors that may cause changes in the pattern of trade between countries over time. **(20 marks)**

**3** After the Global Financial Crisis in 2007/08, the growth in the volume of world trade slowed. Evaluate the extent to which low growth in world GDP is the most important factor influencing the slow growth in world trade. **(20 marks)**

**EXAM HINT**

For Question 1c, use the extract to analyse why economic growth in an emerging economy should increase exports for the UK. To what extent is the UK likely to increase its trade with emerging economies, as a proportion of its total trade?

**EXAM HINT**

For Question 3, analyse why slow growth in countries, such as those in the Eurozone, USA and China, is likely to slow the growth in world trade. Then analyse other factors. To evaluate, consider whether any of the factors currently slowing world trade growth might not be an issue over time.

# 25 THE TERMS OF TRADE

UNIT 4
4.3.2

## LEARNING OBJECTIVES

- Understand the index of terms of trade and how it is calculated
- Understand the factors influencing a country's terms of trade
- Understand the impact of changes in a country's terms of trade on export revenues, living standards and balance of trade

## GETTING STARTED

In June 2014, the world price of crude oil (unprocessed oil) was $115 per barrel. By January 2016, it had fallen to $27 per barrel. For a few countries around the world, such as Venezuela and Saudi Arabia, oil exports account for the vast majority of all their exports. For these countries, what happened to the amount of imports they could buy with each barrel of oil exports? Were they better off or worse off?

## CALCULATING THE TERMS OF TRADE

The terms of trade are defined as the ratio between average export prices and average import prices.

$$\text{index of terms of trade} = \frac{\text{index of export prices}}{\text{index of import prices}} \times 100$$

It is measured in the form of an index because it is calculated from the weighted average of thousands of different export and import prices. For example, according to a trade profile of Qatar published by the WTO, fuels and mining products represented about 84 per cent of Qatar's total merchandise exports in 2015. This was mostly made up of gas and oil exports. The exports of manufactured goods were only about 15 per cent of the total value of merchandise exports. Therefore a change in the price of gas and oil is far more important when calculating the average price of exports than a change in the price of manufactured goods exported by Qatar. Changes in the price of gas and oil are weighted more heavily when calculating the index or average of export prices, than changes in the price of manufactured exported goods. Similarly manufactured products account for about 71 per cent of all merchandise imports, while fuel and mining product imports only represent about 7 per cent of merchandise imports. The top value imported group for Qatar is motor cars. Therefore any changes in the price of imported motor cars will be weighted more heavily when calculating the index of import prices.

The terms of trade are said to improve when the value of the index increases, i.e. when export prices rise relative to import prices. There is a deterioration (or worsening) in the terms of trade when the index value decreases, i.e. when export prices fall relative to import prices.

## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: CHANGES IN THE TERMS OF TRADE

| Year | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Index of export prices | 105 | 99 | 95 | 97 | 100 | 110 |
| Index of import prices | 110 | 107 | 105 | 102 | 100 | 105 |
| Index of terms of trade | | | | | | |

▲ Table 1 Index of export prices and index of import prices (Year 5 = 100)

1 Table 1 shows the index of export prices and the index of import prices for a country over six years. Copy out the table and calculate for each year the index of the terms of trade in the bottom row.
2 Between which years is there (a) an improvement and (b) a deterioration in the terms of trade?

## FACTORS INFLUENCING THE TERMS OF TRADE

The terms of trade for a country, the ratio of average export to import prices, can change for a variety of reasons:

- **Relative inflation rates** If inflation is occurring in the economies of a country's main trading partners, then a rise in inflation relative to other countries is likely to improve the terms of trade.
- **Relative productivity rates** A rise in productivity compared to a country's main trading partners should reduce the relative price of exports as higher productivity leads to lower costs of production. Hence a relative rise in productivity could lead to a deterioration in the terms of trade.
- **Relative labour costs** A rise in labour costs compared to a country's main trading partners should increase the relative price of exports as higher costs of production will push up prices.

Hence a relative increase in labour costs is likely to improve the terms of trade.

- **The exchange rate** A change in the exchange rate will change import and export prices. For example, a rise in the exchange rate is likely to lead to a fall in the price of imported goods. The terms of trade will therefore improve.

Any factor which influences the price of imports or exports will change the terms of trade. For example:

- **Commodity prices** Some countries are heavily dependent on exports of commodities such as oil or copper. Their terms of trade will be heavily influenced by changes in the world price of commodities. For example, a large rise in the price of oil will lead to significant rises in the terms of trade for oil-exporting countries such as Saudi Arabia and Venezuela.
- **Changing incomes** Changing incomes will also affect patterns of demand. As world incomes rise, for example, there has been an increase in demand for tourism. If this leads to a rise in prices in the tourist industry in, say, Turkey, then all other things being equal, there will be an improvement in Turkey's terms of trade.

## EFFECTS OF CHANGES IN THE TERMS OF TRADE ON EXPORT REVENUES AND THE BALANCE OF TRADE

LINK Student Book 1, Chapter 8

Changes in the terms of trade can have an effect on the balance of trade on the current account of the balance of payments. The effect on the balance of trade will depend on the price elasticity of demand for exports and imports. This is summarised in Table 2.

**Exports are price elastic** Assume that exports are price elastic. This means that a rise in export prices will lead to a larger percentage fall in export quantities or volumes. Total export revenues for exporters are equal to average prices multiplied by the volume of goods and services exported. Export revenues are also called export values. So a rise in export prices with price elastic demand for exports will lead to a fall in the value of exports. For example, assume that price elasticity of demand for exports is –3. A 10 per cent rise in export prices will lead to a 30 per cent fall in export volumes (–3 = –30/+10). The total value of exports will therefore fall by approximately 20 per cent. A rise in export prices, all other things being equal, will lead to an increase in the terms of trade (export prices ÷ import prices) but a deterioration in the balance of trade on the current account (exports – imports). However, a fall in export prices, all other things being equal, will lead to a fall in the terms of trade but an improvement in the balance of trade.

**Exports are price inelastic** If exports are price inelastic, a rise in export prices will cause an improvement in the terms of trade and lead to a less than proportionate fall in export volumes. The value of exports will therefore rise and there will be an improvement in the balance of trade.

**Imports are price elastic** If imports are price elastic, a rise in import prices will cause a deterioration in the terms of trade and lead to a more than proportionate fall in import volumes. The value of imports will therefore fall and there will be an improvement in the balance of trade.

**Imports are price inelastic** If imports are price inelastic, a rise in import prices will cause a deterioration in the terms of trade and lead to a less than proportionate fall in import volumes. The value of imports will therefore rise and there will be a deterioration in the balance of trade.

Changes in export prices and import prices can come about for a variety of reasons. For example, between 2000 and 2008, the prices of commodity products such as copper and wheat rose due to an increase in world demand particularly from the fast-growing Chinese economy. Commodities tend to be price inelastic. So countries which were highly dependent on exports of commodities tended to see both their terms of trade and balance of trade improve.

## ACTIVITY 2

SKILLS ANALYSING, REASONING, PROBLEM-SOLVING

### CASE STUDY: SPAIN'S TERMS OF TRADE

▲ Figure 1 Spain: Index of terms of trade

**1** What has happened to Spain's terms of trade between 2007 and 2017?

Another factor affecting export and import prices is domestic inflation. A general rise in prices in the economy is likely to be associated with a rise in the prices exporters charge their customers. If import prices remain the same, the terms of trade will improve. However, the impact on the balance of trade will depend on whether the demand for exports is price elastic or price inelastic.

| | Elasticity | Price change | Terms of trade | Balance of trade in goods and services |
|---|---|---|---|---|
| Exports | Elastic | Rise | Improve | Deteriorate |
| | | Fall | Deteriorate | Improve |
| | Inelastic | Rise | Improve | Improve |
| | | Fall | Deteriorate | Deteriorate |
| Imports | Elastic | Rise | Deteriorate | Improve |
| | | Fall | Improve | Deteriorate |
| | Inelastic | Rise | Deteriorate | Deteriorate |
| | | Fall | Improve | Improve |

▲ **Table 2 The effect of a change in export and import prices on the balance of trade**

## EFFECTS OF CHANGES IN THE TERMS OF TRADE ON THE DOMESTIC ECONOMY

Changes in the terms of trade can have an impact on the domestic economy as well as on the balance of payments.

An improvement in the terms of trade caused by a rise in export prices is likely to lead to a fall in the volume of exports sold. If the balance of trade deteriorates, this could lead to a fall in GDP. As aggregate demand falls, unemployment rises – particularly in export industries. A fall in economic growth is likely to cause a fall in real GDP per capita. This means living standards are likely to fall. The fall in aggregate demand also causes inflation to fall, as demand-pull inflationary pressures reduce.

An improvement in the terms of trade caused by a fall in import prices is likely to lead to a rise in the volume of imports. A fall in import prices will make goods made abroad more price competitive. This will cause domestic consumers to switch their spending away from goods produced in the domestic economy, towards imported goods, where substitutes exist. This will be more significant for domestic firms where imported goods are close substitutes for domestic goods. Domestic producers will therefore lose market share. A fall in import prices where price elasticity of demand for imports is elastic will increase import values. The balance of trade will deteriorate and aggregate demand will fall. However, relatively cheaper import prices will be good for domestic firms who import raw materials and components from abroad. This will reduce their costs and cause the short run aggregate supply to increase. This will partly offset the negative effect on economic growth when aggregate demand falls. Inflation is likely to fall because the fall in import prices will put downward pressure on prices throughout the economy. In this case, cost-push inflationary pressures are reduced. This would be beneficial if inflation had been above its target level. A fall in import prices might also benefit an economy if cheaper capital goods can be imported. This will help to improve the supply-side of the economy.

### CHECKPOINT

1. How are the terms of trade calculated?
2. If the index of export prices is 110, and the index of import prices is 105, calculate the index of terms of trade.
3. What happens to the terms of trade if import prices fall?
4. State how depreciation of a currency will influence the country's terms of trade.
5. State how a rise in productivity would influence a country's terms of trade.
6. What is meant by the term 'export revenues'?
7. What is meant by the phrase 'worsening of the terms of trade'?
8. Why might a worsening of the terms of trade improve the balance of trade?
9. State one reason why a fall in import prices, causing an improvement in the terms of trade, might benefit the domestic economy.
10. For economies reliant on commodity exports, what impact would a fall in the terms of trade have on economic growth?

### SUBJECT VOCABULARY

**index of terms of trade** equal to:

$$\frac{\text{index of export prices}}{\text{index of import prices}} \times 100$$

**terms of trade** the ratio of export prices to import prices

## THINKING LIKE AN ECONOMIST

### ARE IMPROVING TERMS OF TRADE BENEFICIAL?

The 'terms of trade' concept can be confusing. When economists say the terms of trade have improved, they mean a country can buy more imports with a given quantity of exports. For this to happen, export prices must have risen relative to import prices. However, the impact on the export revenues, the balance of trade, economic growth and living standards will depend on why the terms of trade have improved and how consumers and firms, both abroad and in the domestic economy, respond to these relative price changes.

For example, in May 2017, Japan's current account surplus hit its highest level since 2007. For the year to March 2017, the surplus reached 20.2 trillion Japanese yen – equivalent to $177 billion. As a newspaper reported, 'The scale of the surplus highlights the improvement in Japan's terms of trade.'

The cause of the improvement in the terms of trade was a fall in oil prices. Because Japan is one of the largest importers of oil in the world, oil prices will be weighted significantly in Japan's index of import prices. A fall in oil prices will therefore improve Japan's terms of trade. It will also lower the value of oil imports, since demand for oil is price inelastic; this is likely to have a significant impact on the balance of trade and was one of the factors causing the current account surplus to widen.

However, if the terms of trade had 'improved' because Japan's export prices had risen, this might have been caused by costs rising faster in Japan, compared to trading partners. In this case, Japan would be losing price competitiveness in its export markets. How this affects Japan's balance of trade will depend on how foreign consumers respond to these higher prices. If demand for exports is price elastic, export revenues will fall. Japanese consumers are also likely to switch to cheaper imports. So, in this case, an improvement in the terms of trade is likely to worsen the balance of trade, reduce real GDP and increase unemployment.

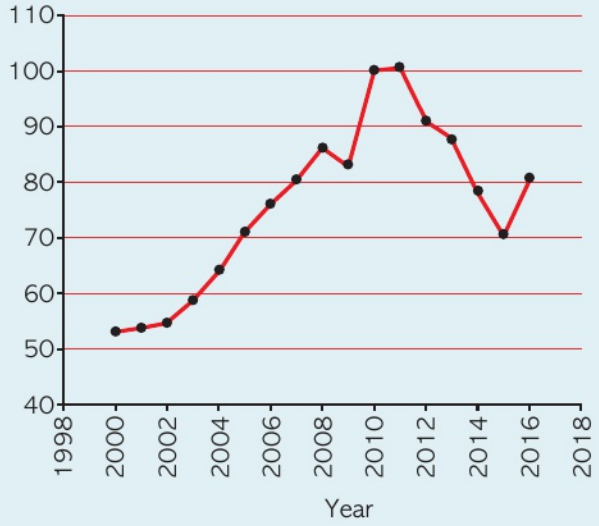
Some emerging economies, such as Brazil, the United Arab Emirates, Russia and Chile, rely heavily on commodity exports, for example soya beans, copper, rubber, oil. For these economies, changes in commodity prices will have a big impact on their economic performance. From 2014, commodity prices fell sharply. Analysis by Fitch Ratings showed that the drop in commodity prices led to a 20 per cent decline in the typical emerging market country's terms of trade between 2014 and 2016. There was a worsening in their terms of trade. According to some research, there was a close correlation between the rate of change in emerging markets' terms of trade and their level of economic growth between 2001 and 2016. A fall in their terms of trade, caused by a fall in commodity prices, will cause export revenues to fall. This is because the price elasticity of demand for commodities tends to be inelastic. As a result, the balance of trade will deteriorate. This will set off a negative multiplier effect as aggregate demand falls.

In contrast, the rise in commodity prices from 2016 onwards would improve the terms of trade of commodity exporters. This means a given quantity of exports can buy more imports. This is particularly beneficial for those emerging economies that import capital goods from developed countries to improve infrastructure and productivity.

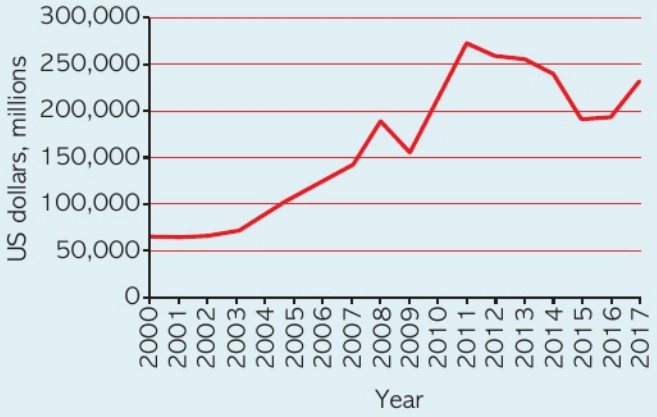
# EXAM PRACTICE

## A WORSENING OF THE TERMS OF TRADE FOR AUSTRALIA AND SUB-SAHARAN AFRICA

SKILLS ANALYSING, REASONING, PROBLEM-SOLVING, CRITICAL THINKING, INTERPRETATION, DECISION MAKING




▲ Figure 2 Australia's terms of trade index




▲ Figure 3 Australia's trade in goods, exports, million US dollars

### EXTRACT A: THE IMPACT OF A FALL IN THE TERMS OF TRADE FOR AUSTRALIA

Up until 2011, China's rapid economic growth contributed to a strong demand for iron ore and coal. Commodity exports make up over half of Australia's exports. By 2011, Australia's terms of trade were at their highest level since the gold rushes of the 1850s.

However, since then Australia's terms of trade have fallen. This is because prices of the country's main exports, iron ore and coal, fell dramatically between 2011 and 2015, with a slight rebound since then.

The fall in the terms of trade had a big impact on incomes in Australia. Real wages started to fall for the first time since the last official recession in Australia in 1991–92, and the unemployment rate increased. The downturn hit young people hardest, with the youth unemployment rate for those aged 15–24 peaking at 13.3 per cent in 2014, the highest level since 2001.

The fall in commodity prices led to the major mining companies reducing investment and production. This quickly affected the rest of the economy. Phil Ramondino, for example, is a self-employed construction worker. He said: 'Competition is very tough, construction companies are going bust, leaving me unpaid, and my take-home pay is down 20 per cent in two years.'

Although exports are dominated by commodities, with iron ore representing a 16.3 per cent export share and coal 12.8 per cent in 2016, imports are not dominated by commodities: the top two import categories for Australia are personal travel services and passenger motor vehicles.

## EXTRACT B: A PLUNGE IN THE TERMS OF TRADE FOR SUB-SAHARAN AFRICA

The recent decrease in commodity prices caused Sub-Saharan Africa's terms of trade to fall by 16 per cent. This meant growth across the region slowed to about 3 per cent in 2016, down from 7–8 per cent a decade ago. With population growth of 2.7 per cent, this is a cause for concern. Nigeria and Angola, two big oil exporters, would be particularly hard hit.

**1** Russia's economy is heavily dependent on oil and gas exports. In mid-2014, the price of oil fell sharply, reaching a low in 2016. Russia's index of terms of trade in 2014 was 111.5. By 2016 this had fallen to 71.1. Which one of the following can be deduced? **(1 mark)**

(a) In 2016, Russia could buy more imports with a given quantity of exports than in 2014.
(b) In 2014, Russia could buy more imports with a given quantity of exports than in 2016.
(c) In both years, Russia must have experienced a balance of trade surplus.
(d) In 2016, import prices are 71.1 per cent of export prices in Russia.

**2** Read the above extracts and answer the following.

(a) Explain what is meant by the phrase 'terms of trade'. **(4 marks)**
(b) Using Extract B, analyse the likely impact of the fall in Sub-Saharan Africa's terms of trade on living standards in this region. **(6 marks)**
(c) Using the information provided, discuss the likely impact of a fall in Australia's terms of trade on its balance of trade. **(14 marks)**

**3** Between 2010 and 2016, South Korea's terms of trade improved by about 9% while Russia's terms of trade worsened by about 29%. Evaluate the factors that can cause a change in a country's terms of trade. **(20 marks)**

**4** Evaluate the effects of an improvement in a country's terms of trade on the measures of economic performance for an economy. **(20 marks)**

### EXAM HINT

For Question 2c, changes in the terms of trade will affect export revenues and import spending. Make reference to the data in Figures 2 and 3 in your analysis as well as relevant information in Extract A. Make sure your analysis uses the concept of price elasticity of demand. Then weigh up the likely impact on the total value of exports, the total value of imports and the current account balance. Your evaluation could also cover the time over which the changes will take place.

### EXAM HINT

For Question 4, make sure you know what 'improvement' in the terms of trade means before you start. For each measure of economic performance, analyse the likely impact. Use AD/SRAS (aggregate demand/short-run aggregate supply) diagrams where helpful. For evaluation, consider what factors might affect the size of the impact on a particular measure of economic performance. Under what circumstances might the impact even go the opposite way?

# 26 TRADE LIBERALISATION AND TRADING BLOCS

UNIT 4
4.3.2

## LEARNING OBJECTIVES

- Understand the role of the World Trade Organization (WTO) in trade liberalisation
- Understand the types of trading blocs
- Understand the costs and benefits of membership of a trading bloc
- Understand the possible conflicts between trading blocs and the WTO

## GETTING STARTED

Use the internet to find out about five different **trading blocs**. What are their names? Which countries are members? How have these trading blocs affected trade? Are there any plans for future development?

## THE ROLE OF THE WORLD TRADE ORGANIZATION IN TRADE LIBERALISATION

In the years following the Second World War, there was a general recognition that protectionist policies used by countries as a response to the Great Depression of the 1930s had been self-defeating. World trade had collapsed, jobs had been lost in export industries and consumers were left paying higher prices to inefficient domestic producers instead of importing cheaper goods.

As a result, 23 countries signed the General Agreement on Tariffs and Trade (GATT) in 1947. Under GATT rules, member countries were not allowed to increase the degree of protection given to their domestic producers. They also agreed that a country which offered a cut in tariffs to one country had to offer the same terms to all member countries. These rules prevented protectionism increasing but did nothing to reduce it, so GATT member countries organised an ongoing series of negotiations (called 'rounds') aimed at reducing tariffs and quotas.

The World Trade Organization (WTO) was set up in 1995 as a result of issues discussed in the Uruguay Round of negotiations. It became the successor to GATT and by 2018 had 164 members. The WTO continues to hold rounds of talks but has a broader range of aims than GATT. Its two main aims are:

### TO REDUCE RESTRICTIONS ON FREE TRADE

The WTO encourages countries to lower protectionist barriers, such as tariffs and quotas, and thus increase trade between countries. So the WTO exists to bring about trade liberalisation.

The latest series of negotiations, the Doha Round, covers a wide range of issues including cutting protectionist measures on trade in agricultural goods; further reductions in tariffs on manufactured goods; and access to markets in services.

The problem facing the WTO is that any single country can stop any trade deal. The Doha Round has failed to progress because at any point in time, there has been at least one country that has refused to accept the outcome of negotiations on a particular issue. What's more, such decisions can be politically motivated – a country may prevent a trade deal because it wants to attack another country on a completely unrelated issue.

### TO MAKE SURE MEMBER COUNTRIES FOLLOW THE TRADING RULES

The WTO's role is also to ensure that countries act according to the various trade agreements they have signed. The WTO discourages 'unfair' practices, such as export subsidies and dumping products below cost to gain market share.

Any country or group of countries can file a complaint with the WTO against the competitive practices of another country. The WTO attempts to resolve most complaints through negotiations between the two parties. Ultimately, though, the complaint can go to a panel of experts (effectively an international court) and this panel will deliver a judgement. Either side can appeal against the judgement, however they must eventually accept the WTO ruling. If they reject the ruling, the country that has won has the legal right to impose trade sanctions against the exports of the losing country to impose the same damage to trade that it is suffering. This usually brings the losing party back to the negotiations.

## TRADING BLOCS

A trading bloc is a group of countries that have signed a **regional trade agreement** to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves. The number of trading blocs has increased considerably over the past 40 years.

Most trading blocs are created by **bilateral trade agreements** between two countries or existing trading blocs. A minority of trading blocs are created by **multilateral** (or **plurilateral**) **agreements** between three or more countries or trading blocs. Some countries belong to more than one trading bloc.

Some trading blocs are relatively inactive and are unlikely to lead to deeper economic integration. A few, such as the European Union (EU), are very active and it is likely that the level of economic integration between member countries will deepen over time. Trading blocs can take the form of **free trade areas**, **customs unions**, **common markets** or **economic unions**.

### FREE-TRADE AREAS

A free trade area is where all **tariffs** and **quotas** are removed on trade in goods between member countries. However, each member country is able to impose its own tariffs and quotas on goods it imports from outside the trading bloc. This means an individual country can have its own trade policy with countries outside the free trade area, for example setting lower tariffs (or eliminating tariffs) for some countries outside the trading bloc.

Because member countries can impose their own tariffs on countries outside the free trade area, customs controls must exist at internal borders within the free trade area. Otherwise any imports from non-member countries would be sent through the member country which imposed the lowest tariffs and then transported across the internal borders. In a free trade area, member countries are not necessarily committed to working towards closer economic integration – the sole objective is free trade between member countries.

### CUSTOMS UNIONS

Customs unions are where there is free trade within the trading bloc and a **common external tariff** on goods coming from outside the bloc. A common external tariff means member countries are not free to make their own individual trade agreements with countries outside the customs union. The customs union will act as a single body for the purpose of making any trade agreements with other countries or trading blocs.

### COMMON MARKETS

Common markets are customs unions that also include the free movement of labour and capital within the area. Product standards and laws concerning free movement of goods and services are common between countries. The term 'single market' is also used to describe a common market.

### ECONOMIC AND MONETARY UNIONS

Economic unions are where the economies of member countries are as fully integrated as different regions within a country. Economic union implies that there is some degree of **fiscal union**, with a central body having some powers over taxation and spending, and **monetary union** (or **currency union**), where all member countries share a common currency.

The most important monetary union today is the Economic and Monetary Union (EMU) of the EU. On 1 January 2002, euro notes and coins replaced national currencies in 13 EU countries. The UK, Denmark and Sweden decided not to join and kept their national currencies. By 2018, the euro was the common currency in 19 out of the 28 EU countries and used by 338.6 million people every day.

Monetary union means member countries have no individual control over monetary policy or exchange rate policy. For example, the European Central Bank is responsible for monetary and exchange rate policy across the whole of the Eurozone. Interest rates set by the European Central Bank will be set in the interests of the Eurozone as a whole.

Loss of individual control over monetary policy may benefit some countries and disadvantage others. This is an inevitable feature of any monetary union. For example, after the Global Financial Crisis, some countries in the Eurozone, such as Greece, had severe recessions. If these countries had not been in the single currency, they would have had the option of printing more of their currency, which would have made their exchange rate cheaper. It would also have put downward pressure on their interest rates. As a result, aggregate demand would have risen.

To counteract this loss of individual control over monetary policy, fiscal transfers between regions are often required when an individual country is performing badly.

Monetary union also means there must be some degree of fiscal union. For example, the EU recognised that there would be major problems if a Eurozone member country behaved in a fiscally irresponsible way. If the governments of large countries such as France or Germany borrowed large amounts of extra money to finance fiscal deficits, this could increase

inflation across the Eurozone. The EU also recognised that there could be problems if the government of a country borrowed so much that it could not repay its debts as they became due. For this reason, they agreed the Growth and Stability Pact that was replaced in 2010 by the Fiscal Compact (the Treaty on Stability, Co-ordination and Governance). There are two main fiscal rules for countries in the Eurozone. Governments must:

- not exceed a fiscal deficit of more than 3 per cent of GDP
- have a national debt of no more than 60 per cent of GDP.

These fiscal rules have been tested to the limits since the financial crisis of 2007–08. This is because the governments of a number of countries have found themselves with national debts of over 100 per cent of GDP. For example, in 2011 the national debt of Greece was 111 per cent of GDP. By 2017, this had risen to 191 per cent of GDP. As a result, financial markets were reluctant to lend to Greece. This has caused major problems for the Greek economy.

There are examples of monetary unions other than the EMU. These include the Eastern Caribbean Currency Union, a group of eastern Caribbean countries, including Dominica, Grenada and Saint Lucia, which use the East Caribbean dollar.

Groups of countries, by forming trading blocs, may evolve over time so they go from fairly shallow integration, such as a free trade agreement, and move gradually towards more complete economic integration, with an economic and monetary union. Complete economic integration is when countries in a union operate in the same way as countries, departments, regions or areas in a nation state. Complete economic integration is therefore associated with political union. With complete economic integration there is a **harmonisation** of economic policies. This means there are common standards, rules and levels on everything from safety standards to tariffs, taxes and currencies. However, although a trading bloc might move through stages of ever increasing economic integration, this is not inevitable.

## SOME EXAMPLES OF TRADING BLOCS

A few trading blocs have a significant impact on world trade.

**The European Union (EU)** In 2018, the EU had 28 member countries and had reached this size with the accession (joining) of Croatia in 2013. It is in the process of transforming itself from a customs union to a full economic union. Four additional countries – Norway, Iceland, Switzerland and Liechtenstein – are not part of the EU but participate in the EU single market, which allows the free movement of goods, people and financial capital between countries.

**North American Free Trade Agreement (NAFTA)** NAFTA is the world's largest trading bloc measured by the GDP of its three member countries, the USA, Canada and Mexico. Formed in 1994, it is a free trade area which covers trade in all goods except agricultural products. Removal of tariff barriers has led to the relocation of many businesses to Mexico to take advantage of much lower wages. There has been a large increase in the number of Maquiladoras, Mexican factories which take in imported raw materials and produce goods for export. Associated with NAFTA are a number of other agreements between the three countries, including ones on the environment and labour. However, at this stage there are no serious political negotiations to move NAFTA from being just a free trade area to a customs union.

**The Association of Southeast Asian Nations (ASEAN)** ASEAN was formed in 1992 and consists of 10 member countries from South East Asia. The ASEAN Free Trade Area (AFTA) allows each country to set its own tariffs on imports but imposes no or minimal tariffs on goods which have an ASEAN 40 per cent content value. In December 2015 the ASEAN Economic Community (AEC) was established with a goal to create a common market with free movement

| | Tariffs on trade between countries in the agreement | Common tariffs on imports from outside the agreement area | Free factor mobility within the area | Harmonisation of economic policies |
|---|---|---|---|---|
| Free trade agreement | Eliminated | No | No | No |
| Customs union | Eliminated | Yes | No | Possible |
| Common market | Eliminated | Yes | Yes | Desirable |
| Economic union | Eliminated | Yes | Yes | Yes |
| | | | | |

▲ Table 1 Summary of types of trading blocs

of goods, services, labour, investments and capital across its member states. This will take some time to fully achieve – the AEC has set a deadline of 2025. The delay shows the problems faced when countries attempt to create common markets.

**Union of South American Nations (UNASUR or USAN)** The Union of South American Nations is a union of two South American trading blocs, the Andean Community of Nations (CAN) and Mercosur. Most South American countries belong to USAN, the aim of which is to create a single market between member countries, but little progress has been made to date on this objective.

**Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)** The CPTPP was set up in 2018. Activity 1 provides some background on this trading bloc.

## COSTS AND BENEFITS OF MEMBERSHIP OF A TRADING BLOC

### TRADE CREATION AND TRADE DIVERSION

When a small number of countries form a trading bloc, with tariffs on countries outside the bloc, there will be winners and losers.

The removal of trade barriers between member countries will cause an increase in trade between them. **Trade creation** is said to take place when a country moves from buying goods from a high-cost country to buying them from a lower-cost country. For instance, Country A might have imposed a 50 per cent tariff on imported cars. As a result, all cars sold in Country A were produced domestically. It now joins a customs union. The common external tariff is 50 per cent but cars from member countries can be imported free of the tariff. Country A now buys some cars from common market countries because they are lower priced than those previously produced domestically. Consumers in Country A benefit because they are able to buy cars from a cheaper source.

**Trade diversion** takes place when a country moves from buying goods from a low-cost producer to buying them from a higher-cost producer. For instance, before entry to the EU, the UK had low or zero tariffs on imported food. It bought from the lowest-cost producers round the world such as New Zealand and the USA. After entry, the UK had to impose the much higher EU common external tariff. As a result, it became cheaper to buy food from other EU countries such as France and Italy. France and Italy are higher-cost producers than the USA and New Zealand for many food items.

In general, the higher the tariffs imposed by a country before entry to a trading bloc, the more likely it is that trade creation rather than trade diversion will take place. It is also true that the net gains will tend to be larger, the greater the volume of trade between the countries in the trading bloc.

Trading blocs can be seen as a 'second best' solution in a world where there is protectionism. Economic efficiency would be maximised if there were no barriers to trade between all countries and there was free movement of factors of production. In this world, comparative advantage would determine which countries produced what goods. This would be the 'first best' solution. In the real world, such conditions don't exist. Economic inefficiency arises because relatively high-cost producers can shelter behind protective barriers. A trading bloc brings down these barriers, at least between member states. Member countries may therefore be able to switch buying from a high-cost producer to a lower-cost producer. However, countries will only benefit if trade creation is greater than trade diversion.

Gains from trade creation are static gains. They occur permanently following the creation of, or entry to, a trading bloc. Membership of a trading bloc may also result in dynamic gains and losses – gains or losses which occur over a period of time.

### COMPETITION, COSTS AND PRICES

A possible dynamic gain arises from increased competition between firms. A trading bloc eliminates or reduces restrictions on trade between member countries. Domestic industries will therefore face greater competition than before from firms in other member countries. Firms will want to find ways of keeping their costs as low as possible to remain price competitive. Greater competition forces firms to be price and non-price competitive.

If the trading bloc is also a monetary union, this should further result in lower prices for consumers. A single currency makes it easy for customers to compare prices between different countries. This is called price transparency. This makes it easier for consumers to buy from the cheapest source and therefore puts more pressure on firms to be price competitive. Also, multinational producers are far less able to price discriminate between countries by charging higher prices in some than in others to earn monopoly profits.

LINK Student Book 2, Chapters 8 and 10

The increase in competition between firms leads to gains in productive efficiency, allocative efficiency and

dynamic efficiency. These efficiency gains will promote economic growth for countries in the trading bloc.

Although there is likely to be greater competition in the short run, evidence suggests that this competition might be reduced in the long run. Competition will drive the least efficient firms out of the market, as the theory of perfect competition predicts. Other firms will seek to maintain monopoly profits by re-establishing control over their markets. They will do this by merging with or taking over foreign firms within the trading bloc. Over time, the oligopolistic nature of competition in domestic markets will be recreated on a trading bloc level. This may benefit the consumer through economies of scale, but it certainly will not bring the benefits that free market economists suggest. The monopoly power is likely to make prices higher for consumers in some markets.

**LINK** Student Book 2, Chapter 13

However, large international monopolies, earning considerable abnormal profit, will have the resources to devote to research, development and investment. If they fail to develop products that satisfy consumer wants, their monopoly will be lost through the process of **creative destruction**. Competitors will break their monopoly by creating new products. This constant development of new products may be more beneficial to consumer welfare than a few per cent off the price of existing products.

## ECONOMIES OF SCALE

One important dynamic gain of membership of a trading bloc comes from economies of scale. In a trading bloc, the potential size of the market is inevitably larger than in a national market. For instance, in 2018 the EU had 508 million inhabitants, compared to 1.2 million for Cyprus. This means that important economies of scale can be achieved by national companies if they access a market throughout the trading bloc. This is no easy task, given that each country is likely to have different consumer preferences. However, some products, such as basic chemicals, are demanded by all countries. Other products, such as cars, are relatively easily sold across national boundaries. Other products, such as make-up, may need different packaging for different countries, but the basic product is the same.

Economies of scale will be achieved over a period as companies expand internally or merge with other foreign companies. The size of the potential gains will be greater the more homogeneous the tastes of consumers within the market. Economies of scale bring benefits to consumers because average costs of production fall, so prices are likely to fall too.

A trading bloc with a monetary union means there is even more scope for firms to benefit from economies of scale. No exchange rate costs and greater price transparency are likely to lead to more trade between member countries. This may further increase cross-border mergers and takeovers to create larger firms supplying across the trading bloc rather than just a single national economy. This might mean economies of scale are more fully exploited, further reducing prices to customers.

## TRANSACTION COSTS

Transaction costs are extra costs involved with exchange of goods and services. With international trade, transaction costs arise if different currencies are used. When countries have their own currencies, there can be exchange rate variations. In a floating exchange rate system (where exchange rates are not fixed), for example, exporters and importers don't know what the exchange rate will be in three months' time.

In a monetary union, a single currency will eliminate the risks that would have arisen from exchange rate changes between member countries. A single currency means that there are no exchange rate costs in making transactions. It is as costless for a French firm based in Calais to buy from a firm in Germany as from a firm in Paris. In contrast, a French firm buying from an American firm will still have the cost of changing currency. This is not just the commission and charges imposed by banks. It is also the costs arising from the risk factor of currencies changing in value from day to day in a floating exchange rate system. A trading bloc with monetary union removes these transaction costs.

## MOVEMENT OF FACTORS OF PRODUCTION

In a common market or economic union, there is free movement of factors of production. This will transfer real resources from country to country. Countries in the common market which are particularly dynamic and successful are likely to attract inflows of labour and capital. Countries which have lower growth rates are likely to suffer net capital outflows and lose some of their best workers to other economies. This could increase regional differences, making the richer nations relatively even richer.

The process may be more intense if the successful countries are at the geographical centre of the common market while the less successful countries are on the edge. Transport and communication costs tend to be lower for companies at the centre and higher for those further away. Hence central countries tend to have a competitive advantage over countries on the edge.

Neo-classical economic theory suggests that free market forces will equalise the differences between regions. An unsuccessful region will have cheap labour and cheap land. Firms will be attracted into the region to take advantage of these. In practice, this effect seems to be very weak. Cheap labour economies can easily become branch economies. Firms set up branches in these regions, employing cheap labour to perform low-productivity tasks. Tasks which have high value added are completed at headquarters in higher-cost areas. The result is growing economic divergence, with poorer regions losing the most skilled of their labour force to the richer regions and being left with less dynamic and less skilled workers to do less well paid jobs.

## ACTIVITY 1

SKILLS REASONING, ANALYSING

### CASE STUDY: A NEW TRADE BLOC EMERGES FROM THE ASHES OF THE TPP

On 8 March 2018, 11 countries signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) free trade agreement.

Its members – currently Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam – together make up 13.5% of the world economy. The gains will only be a third as much as expected under TPP (the original name of the agreement when America was expected to join), but they are still meaningful. According to estimates, the economies of the CPTPP members will be made 1.7 per cent larger than they would have been, on average, by 2030. The biggest winners in percentage terms, are poorer nations such as Vietnam and Peru, who are expected to see their economies expand by 2 to 3 per cent each.

1 Why are poorer countries, such as Vietnam and Peru, likely to experience a more significant increase in economic growth after they join the CPTPP, compared to the richer members of the CPTPP? How might consumers benefit if their country joins the CPTPP?

## POSSIBLE CONFLICTS BETWEEN TRADING BLOCS AND THE WTO

Although the World Trade Organization permits trading blocs, as long as they lead to lower protection against outside countries than before the creation of the trading bloc, trading blocs do sometimes conflict with the objectives of the WTO.

Firstly, the WTO aims for free trade between all its members. Trading blocs only achieve free trade between the countries who are members of the trading bloc. This means trading blocs do not produce anywhere near the economic gains that could be achieved by a world trade agreement between all countries. The economic gains from specialisation predicted by the theory of comparative advantage, combined with the losses because of trade diversion, mean that any regional trade agreement (RTA) will almost certainly produce an inferior outcome compared with an agreement that included all the WTO members. An RTA may be better than no agreement, but economists have criticised some RTAs for actually leading to a loss of economic welfare because the gains from trade creation have been outweighed by the losses from trade diversion.

Secondly, trading blocs fail to meet the standard of WTO's most-favoured nation clause, which states that a country which offers a cut in tariffs to one country has to offer the same terms to all WTO member countries. When a trading bloc is formed, tariffs are removed between its members, but tariffs are still in place with countries outside the trading bloc. The WTO permits trading blocs to form, even though member countries of the WTO who are not in the trading bloc do not benefit.

Thirdly, conflicts between trading blocs, or between a trading bloc and another country, can lead to a rise in protectionism. The WTO does have rules which prevent members increasing protectionist measures. However, there are exceptions: for example, a country can raise barriers against products that are considered to be traded unfairly from specific countries. A country or trading bloc may stretch these rules. This would undermine the WTO and be more likely to cause trade wars. Activity 2 provides an example of this. Undermining the WTO will cause conflict between trading blocs and the WTO. From 2016 onwards, there was a growing fear of rising protectionism across the global economy. By 2018, the US, China and EU were either increasing tariffs or threatening to do so. This shows that although the WTO aims to settle disputes between member countries, trading blocs can sometimes make differences between countries even stronger.

Fourthly, the WTO aims to support development. For example, the WTO aims to give developing countries, which make up three-quarters of WTO members, more time to adjust to the world trading rules. However, most developing countries are currently not members of any powerful trading blocs. At the same time, they often face relatively high common

external tariffs from trading blocs, such as the EU. This means the development gap between advanced economies and developing countries may increase.

Lastly, the existence of trading blocs might offer countries an alternative to joining the WTO. Equally, being a member of a trading bloc might seem more important to a country, making WTO agreements less significant for them. In 2018, there was a concern that the rules of the world trading system were not being respected. The US was threatening to and increasing their use of protectionist measures, perhaps because they felt that in the past the WTO had not been effective in preventing what they thought was unfair competition from countries such as China.

Despite all the possible conflicts between the aims of the WTO and trading blocs, many would argue that these conflicts are overstated. In fact, trading blocs might help to promote free trade. Because trading blocs result in free trade between members, this may end up cutting tariffs more quickly and by more than any WTO round might achieve. Having trading blocs might just be a way of accelerating the move towards unilateral **trade liberalisation**. In practice, rounds of the WTO have failed to make progress, whereas the growth of trading blocs continues.

Trading blocs may also promote greater economic and political integration, reducing the chance of disputes between countries. They also negotiate as one body at the WTO, speeding up any decision-making process.

As regards the development argument, although some trading blocs, such as the EU, can be criticised for benefiting only developed economies, there are trading blocs which include both developed and developing countries. For example, the CPTPP includes both Vietnam and Japan.

## ACTIVITY 2

SKILLS: INTERPRETATION, CRITICAL THINKING

### CASE STUDY: EU RESPONSE TO TRUMP'S TARIFFS RISKS BREAKING WTO RULES

An EU plan to respond to Donald Trump's promised tariffs on aluminium and steel, by placing tariffs on US products such as Harley-Davidson motorcycles, risks running against the WTO's rules itself, according to experts.

The US has put tariffs on steel and aluminium on a range of countries, such as Canada, Brazil, South Korea, China and Mexico, as well as the EU. The US's argument is that it is acting in the interest of national security. This would make this action legal under WTO rules.

However, EU officials argue that the US move appears to be a 'safeguard' action – when a country uses temporary tariffs in response to unexpected import increases that hurt local industries.

Under the WTO agreement covering such safeguards, other countries are allowed to respond proportionately if they do not receive compensation for the new trade restrictions within 90 days. This interpretation would 'allow' the EU to impose tariffs on US imports, such as Harley-Davidson motorcycles.

Edward Alden, a senior fellow at the Council on Foreign Relations in Washington, said that by stretching the rules, the EU move could undermine the WTO and make worse a trade war. There was also a risk that other countries would use either the national security or 'safeguard' arguments. This would go against the intentions of the WTO rules. Mr Trump responded to the EU's plan by threatening to raise tariffs on European cars if the EU retaliated.

**1** Explain how the actions of the EU might conflict with the aims of the WTO.

## CHECKPOINT

**1** What are two important roles of the WTO?

**2** What is the difference between a free-trade area and a customs union?

**3** What is the difference between a common market and a customs union?

**4** What is an economic and monetary union?

**5** What is meant by 'trade creation' and 'trade diversion'?

**6** State two likely advantages for a country of joining a trading bloc.

**7** State two possible disadvantages of joining a trading bloc.

**8** State two possible ways a trading bloc might conflict with the objectives of the WTO.

## SUBJECT VOCABULARY

**bilateral trade agreement** an agreement between two countries, or between a country and a trading bloc, which gives favourable trade arrangements; it reduces some barriers of trade between the two

**common external tariff** a common tariff set by a group of countries imposed on imported goods from non-member countries

**common market** a group of countries between which there is free trade in products and factors of production, and which imposes a common external tariff on imported goods from outside the market; product standards and laws concerning free movement of goods and services are common between countries

**creative destruction** a process where firms produce or create innovative new products that replace or destroy existing products in the market; for example the internet has led to a significant shift of spending from 'bricks and mortar' high street shops to online shopping

**customs union** a group of countries between which there is free trade in products and which imposes a common external tariff on imported goods from outside the market

**economic union** a group of countries where the economies of member countries are as fully integrated economically as different regions within a single country; for example, a single market will be combined with a fiscal and monetary union

**fiscal union** a group of countries where a central body has some powers over government borrowing, government spending and setting uniform rates of taxation in member countries

**free trade area** a group of countries between which there is free trade in goods and services but where member countries are allowed to set their own level of tariffs against non-member countries

**harmonisation** establishing common standards, rules and levels on everything from safety standards to tariffs, taxes and currencies

**monetary union or currency union** a group of countries which share a common currency, such as the euro

**multilateral or plurilateral trade agreement** a regional trade agreement between three or more countries or trading blocs

**quota** a physical limit on the quantity of an import

**regional trade agreement** an agreement between at least two countries to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves

**tariff** a tax on imported goods which has the effect of raising the domestic price of imports and thus restricting demand for them

**trade creation** the switch from purchasing products from a high-cost producer to a lower-cost producer

**trade diversion** the switch from purchasing products from a low-cost producer to a higher-cost producer

**trade liberalisation** the move towards greater free trade through the removal of protectionist barriers to trade

**trading bloc** a group of countries that have signed an agreement to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves

## THINKING LIKE AN ECONOMIST

### THE IMPACT FOR THE UK OF LEAVING THE EU (BREXIT) ON TRADE IN GOODS AND SERVICES

In June 2016, the people of the UK voted to leave the EU in a decision that has been called Brexit – the exit of Britain from the EU. Public opinion on the move had been evenly split. Economists also had different views on whether the decision to leave would be beneficial for the UK economy. By 2018, the UK was still in the EU but was in the process of negotiating what type of relationship it would have with EU once it had left.

The following data shows the importance of EU trade for the UK economy and the scale of trade creation from being a member of this large common market. These trading patterns relate to the period after the UK voted to leave the EU, but while the UK was still a member of the EU.

- In 2017, UK exports to the EU were £276 billion (44% of all UK exports).
- In 2017, UK imports from the EU were £347 billion (53% of all UK imports).
- In 2017, the UK had an overall deficit of £72 billion with the EU – a deficit of £96 billion on trade in goods but a surplus of £14 billion on the trade in services.
- In 2017, services accounted for 39% of the UK's exports to the EU. Financial services and other business services are important categories of service exports to the EU – in 2016 these two categories made up 56% of UK service exports to the EU.
- With non-EU countries, the UK had a trade surplus of £41 billion. A surplus of £84 billion on trade in services outweighed a deficit of £41 billion on trade in goods. It can be seen that the volume of these trade flows is significantly smaller than UK–EU trade flows.

However, Brexiteers (those who strongly support the UK's decision to leave) might argue that trade between the UK and EU will become less significant over time. For example, the share of UK exports of goods and services going to the EU has already fallen from 54 per cent in 2000 to 43 per cent in 2016.

In 2018 it was thought that the UK's current EU membership might be replaced by some kind of free trade agreement – unless the UK suddenly decides to stay in the customs union. UK politicians are divided on what the best type of agreement would be.

Assuming the UK ends up with some post-Brexit free trade area, most economists agree that such an agreement would increase trade barriers between the UK and its largest market. This is because most free trade agreements only ensure that tariffs or quotas are not placed on goods: services are generally not covered; agriculture and food are sometimes not included. Not including services would be a concern for the UK. In 2016, 37 per cent of UK service exports were to the EU. Financial services contributed more than a quarter of the UK's service exports to the EU.

In a free trade area, non-tariff barriers also increase compared to being in a customs union. These would include paperwork at borders, rules of origin complications (the process of checking where goods have originated from and setting the correct tariff) and the costs associated with different standards. As a result, most economists think entering into a free trade agreement with the EU, compared to being a member of the EU, will reduce the UK's trade with the bloc, reducing both export and import flows between the two. The 'trade creation' of being in a free trade area with the EU, compared to a customs union, would be lower.

However, assuming the UK ends up in a free trade agreement with the EU, the UK will no longer have to set the external tariff imposed by the EU on the rest of the world. If the UK sets lower tariffs, UK firms will be able to buy imports from lower-cost producers around the world. Many non-EU countries can produce goods at a lower cost than EU firms because labour is significantly cheaper. So the UK will benefit from trade creation with non-EU countries.

If the UK does enter a free trade agreement, rather than remaining in the customs union, it will be free to strike up new free trade agreements with countries currently outside the EU. For example, it might be possible for the UK to have regional trade agreements with countries such as China, the US, India, Australia and New Zealand. In 2018, there was even talk that the UK might join the CPTPP at some point in the future. This means that there is scope for membership of new trading blocs where membership might lead to more trade creation than trade diversion. UK firms might have greater access to common markets across the globe, with many millions or billions of consumers. This might help more UK firms benefit from economies of scale. Prices for UK consumers could be even lower than they would have been if the UK had remained in the EU.

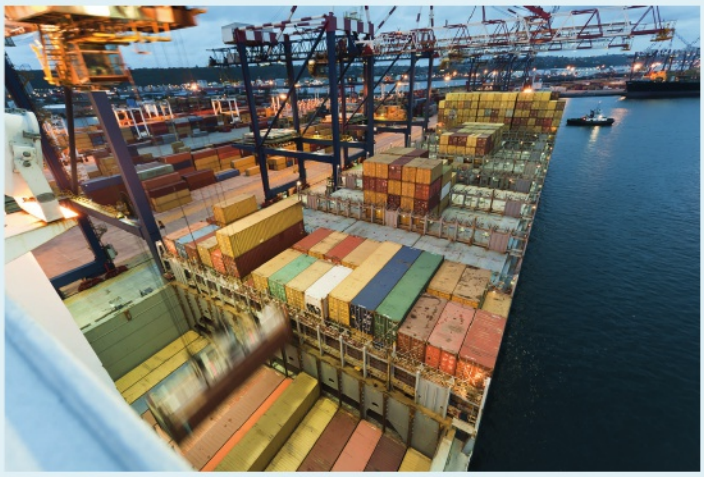
However, in the short run at least, some industries are predicted to suffer more from Brexit than others. Recent UK government research papers set out which UK sectors would be hit hardest by shifting to a free trade agreement, based on an increase in non-tariff barriers which would exist in a free trade area. Export-intensive high tech businesses, such as the car industry and the air travel industry, are likely to lose. This would have a negative impact on the North-East region of the UK. At the same time, parts of London and the UK South East that specialise in financial and business services are predicted to be hardest hit by the increase in tariffs and non-tariff barriers that Brexit could bring.

The sort of relationship the UK will end up having with the EU was still unknown in 2018. If no deal can be made with the EU, once the UK leaves the EU it will end up trading on WTO rules alone. However, some deal is likely, since both the UK and EU have much to lose without one.

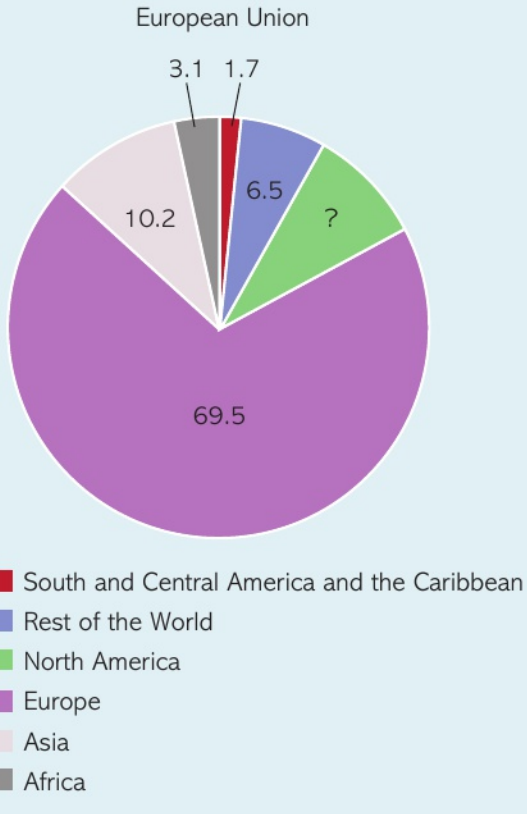
# EXAM PRACTICE

## AFRICA SIGNS UP TO A NEW FREE TRADE AGREEMENT

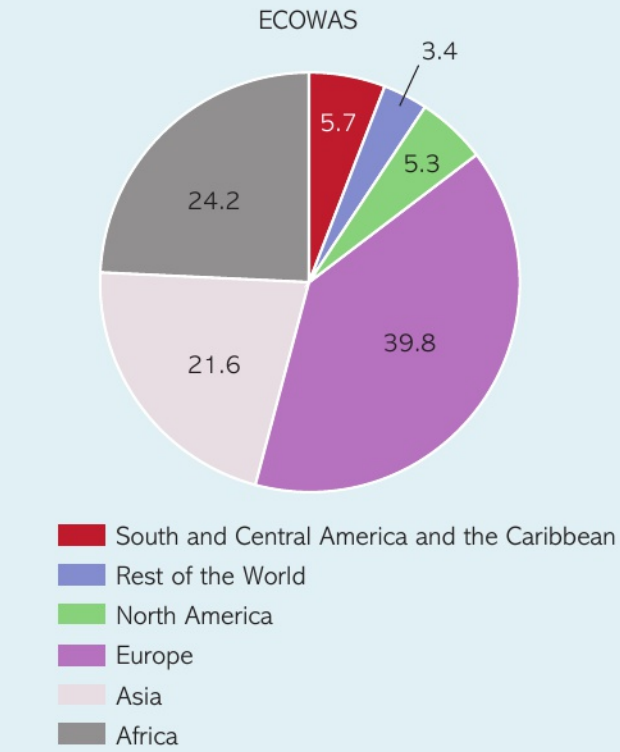
**SKILLS** REASONING, ANALYSING, PROBLEM-SOLVING, INTERPRETATION, CRITICAL THINKING



The pie charts below show merchandise exports of Regional Trade Agreements by destination, 2015. The data on the pie charts shows the percentage of exports from the trading bloc going to different regions in the world.




▲ Figure 1




▲ Figure 2

### EXTRACT A: HOPE FOR AFRICA'S NEW FREE TRADE DEAL (AFCFTA)

In March 2018, 44 African nations signed a continent-wide free trade agreement. The aim of the free trade area is to cut tariffs from their current average of 6.1 per cent to eventually zero and reduce non-tariff barriers such as poor infrastructure and inefficient border posts. Twenty-seven countries also signed a separate agreement to allow the free movement of people across borders.

It is hoped that this continent-wide agreement will increase intra-African trade. Existing regional trading blocs in Africa, such as ECOWAS (Economic Community of West African States), have had limited success. Intra-African trade, which was about $170 billion in 2017, accounted for about 15 per cent of the continent's trade, according to the African Export-Import Bank.

Paul Kagame, chair of the African Union said: 'As we trade more among ourselves, African firms will

become bigger, more specialised and more competitive internationally.' Supporters of free trade argue that lower barriers to trade will make it easier for African countries to develop regional supply chains and export more finished goods rather than raw materials, as is the case at present.

The UN economic commission on Africa forecasts that if the largest African economies joined the free trade area, intra-African trade would grow 50 per cent in the next five years. At the moment South Africa and Nigeria, the continent's two largest economies, along with nine other states, have not signed up.

## EXTRACT B: CHALLENGES AHEAD FOR AFCFTA

There are many non-tariff barriers the AfCFTA will need to lower which currently restrict the movement of goods. Research suggests that road transport costs in Africa are between 40 per cent and 400 per cent higher than in other low-income economies. Poor infrastructure probably imposes a bigger cost than tariffs. One study estimated that cutting intra-African land transport costs by just 10 per cent could boost trade volumes by 25 per cent.

There is also too much time taken for customs and port handling, often caused by too much bureaucracy and inefficiency. The Trade Law Centre, a South African think-tank, looked at the time taken for customs and port handling in Africa and Singapore, and then imagined closing the gap by a fifth. The economic gains would be roughly double those expected from eliminating tariffs.

Moreover, complex visa rules prevent the free movement of businesspeople across the continent.

However, despite the many obstacles, African leaders remain optimistic. There are proposals in the future for a common currency and an African passport.

1 Read the information provided and answer the following:
   (a) In 2015, the value of merchandise exports for the EU was $5389.4 billion. Using Figure 1, calculate the value of EU merchandise exports to North America. **(2 marks)**
   (b) With reference to Extract A, analyse the likely impact on prices for those countries who become members of AfCFTA. **(6 marks)**
   (c) With reference to the information provided, examine the likely impact of AfCFTA on increasing intra-African trade. **(8 marks)**
   (d) With reference to the information provided, discuss the likely economic benefits of AfCFTA for the countries who have joined. **(14 marks)**

2 On 8 March 2018, 11 countries signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) free trade agreement. Evaluate the extent to which regional trading blocs conflict with the objectives of the WTO. **(20 marks)**

### EXAM HINT

For Question 1a, using the pie chart in Figure 1, calculate the proportion of EU exports sold to North America. Then use this, with the data in the question, to calculate the value of these exports.

### EXAM HINT

For Question 1c, analyse why intra-African trade is likely to increase using the concepts of trade creation. Evaluate by considering to what extent intra-African trade will increase after the formation of AfCFTA. There are factors mentioned in both extracts which can be used to explain why intra-African trade may not increase significantly. However, also consider the difference between the short run and long run. What is a long run aim of AfCFTA and why might this promote more trade within Africa?

### EXAM HINT

For Question 1d, analyse the likely benefits for the African countries who have joined; remember that many of these countries were already members of smaller regional trading blocs, so consider the extra benefits of belonging to a larger trading bloc. Evaluate by considering under what circumstances or assumptions the potential gains can be greater. Are there any factors which might limit the benefits for individual members?

# 27 RESTRICTIONS ON FREE TRADE

UNIT 4
4.3.2

## LEARNING OBJECTIVES

- Understand the reasons for restrictions on free trade:
  - to protect infant and geriatric industries, domestic industries/employment, and national security
  - to prevent dumping
  - to correct a deficit on the current account of the balance of payments
  - to raise revenue
- Understand the types of restrictions on free trade: tariffs, non-tariff barriers (quotas, subsidies, administrative barriers, exchange rate manipulation)
- Understand the impact of protectionist policies on consumers, producers, governments, living standards, equality

## GETTING STARTED

Using the internet, research recent examples of **restrictions on free trade** used by countries such as the United States and China. What reasons do the governments in these countries give for any new restrictions used? Who might benefit and who might lose from these trade restrictions?

## RESTRICTIONS ON FREE TRADE

According to the theory of comparative advantage, **free trade** allows output between trading nations to be maximised. However, every country uses protectionist policies to some degree. **Protectionism** is the use of economic policies to regulate trade between countries, mainly to reduce imports. However, some protectionist policies are designed to reduce or increase exports. There are many methods that can be used, including tariffs, quotas, subsidies to domestic producers, exchange rate manipulation and administrative barriers.

## REASONS FOR RESTRICTIONS ON FREE TRADE

The theory of comparative advantage states that there are major welfare gains to be made from free trade in international markets. However, protectionism has always been widespread. What arguments can be put forward to justify protectionist policies?

### TO PROTECT INFANT AND GERIATRIC INDUSTRIES

The **infant industry** argument is one of the oldest arguments in favour of protectionism.

An infant industry is an industry which is just starting up in an economy and is in its early stages of development. A new low-volume producer will find it impossible to compete on price against an established foreign high-volume producer. Infant industries may well face much higher costs than foreign competitors. Partly this is because there may be large economies of scale in the industry. It also takes some time for managers and workers in a new industry to establish efficient processes and working practices ('learning' benefits). This means an infant industry needs protecting in the short run so that it can compete. Once the industry is sufficiently large and the 'learning' efficiency benefits have been achieved, tariff barriers can be removed and the industry exposed to foreign competition.

The infant industry argument is particularly strong for those industries which would have a comparative advantage in the long run. In this case, resources will have been allocated efficiently.

Some countries, such as Japan and South Korea, have successfully developed infant industries behind high **trade barriers**. It is also true that many countries have financial systems which tend to take a short view of investment. It is difficult, if not impossible, to find backers for projects which might only become profitable in 10 or even five years' time.

However, infant industries do not necessarily grow successfully behind trade barriers. One problem is that a government needs to be able to identify those infant industries which will grow successfully. Governments have a poor record of picking such 'winners'. Secondly, industries protected by trade barriers lack the competitive pressure to become efficient. Infant industries often continue to require government assistance when they mature. They only carry on operating because they have become skilled at persuading government to maintain high trade barriers. Thirdly, it is usually more efficient to use other

policy weapons if a government genuinely wishes to encourage the development of a new industry. Specific subsidies, training grants, tax reductions, or even the creation of state enterprises are likely to be better ways of creating new industries.

The use of protectionism to protect **geriatric industries** is often harder to justify, except in certain cases. A geriatric industry in a country is one which is in decline, often because it cannot compete with those abroad. Wage costs differ greatly across the world and can explain why industries in some countries start to lose their competitiveness in global markets. A lack of international competitiveness might also arise if the industry has been run inefficiently.

If large investment would help the industry compete in the long run, then the use of protectionism in the short run can be justified. However, most geriatric industries are unlikely to regain any comparative advantage they might previously have enjoyed. In this case, protectionism might still be justified in the short run if it helps the economy reallocate resources more gradually. If the industry is concentrated in one region, then closing the industry would set off a significant negative multiplier effect in the local area. A more gradual approach over time might help workers to acquire the necessary skills to switch between jobs more quickly.

In some cases, the protection of geriatric industries in advanced economies has been supported as a response to unfair trade practices used by developing countries.

## TO PROTECT DOMESTIC INDUSTRIES AND EMPLOYMENT

Another argument is that protectionism can protect domestic industries and create or at least preserve jobs. If, for example, there is a large increase in the quantity of steel imported, domestic steel producers will see reduced orders. They will reduce production, cutting jobs and possibly closing plants. Protecting the local steel industry from foreign competition will mean that the orders, jobs and plants are preserved. Workers and domestic producers benefit.

## TO PROTECT NATIONAL SECURITY

It is sometimes argued that a country needs a particular domestic industry for **national security** purposes. Both military and non-military dimensions are included, such as energy security, food security, cyber security and environmental security. In 2018, the United States imposed a 25 per cent tariff on steel and 10 per cent on aluminium imports on countries such as China and the EU members. The US claimed that over reliance on imported metals would threaten the country's national security, in terms of defence, if their own metal industry was damaged. The tariffs would protect steel and aluminium producers. The tariffs apply to a range of steel and aluminium products, such as sheets, pipes and semi-finished products. The 'national security' clause was the first time this had been used to justify a protectionist measure since the WTO was established in 1995.

## TO PREVENT DUMPING

**Dumping** can be defined in a number of ways. Broadly speaking it is the sale of goods below their cost of production, whether marginal cost, average total cost, or average variable cost. Foreign firms may sell products 'at a loss' for a variety of reasons.

- They may have produced the goods and failed to find a market for them, so they are dumped on one country in a distress sale (where an asset is sold urgently, even if this means incurring a loss).
- In the short run, a firm may have excess capacity. It will then sell at a price below average total cost so long as that price at least covers its variable cost.
- Low prices could represent a more serious long-term threat to domestic industry. A foreign producer may deliberately price at a loss to drive domestic producers out of business. Once it has achieved this, it can increase prices and enjoy monopoly profits.

Goals of long-term domination by a foreign producer might justify trade barriers, although it might be more efficient to subsidise domestic industries. It is difficult to say whether short-term distress dumping leads to a loss of domestic welfare. On the one hand, domestic producers and their workers may suffer a loss of profits and wages. The impact on employment should be limited if dumping is only a short-term phenomenon. On the other hand, consumers gain by being able to buy cheap goods, even if only for a limited period.

## TO CORRECT A DEFICIT ON THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

A government might attempt to use protectionism to reduce the value of imports or increase the value of exports as a means of correcting a deficit on the current account of the balance of payments. For example, tariffs (a tax on imports) increase the price of imports. This will reduce the volume or quantity of imports demanded. The use of protectionism to correct a deficit will be more successful for those imports which have a high price elasticity of

## ACTIVITY 1

SKILLS REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

### CASE STUDY: TARIFFS ON IMPORTS OF CHINESE ELECTRIC BICYCLES

In July 2018, the EU imposed tariffs on imports of Chinese electric bicycles to protect the bloc's manufacturers against dumping.

Europe's electric bike industry generates an annual turnover of around €1.3 billion. It employs 3500 people at companies including Accell Group in the Netherlands, Romania's Eurosport DHS and Derby Cycle of Germany. Regulators had found evidence of dumping, as a result of which the EU's ebike producers had suffered 'material injury'. However, the Light Electric Vehicle Associations said no evidence of dumping had been established and duties would limit consumer choice.

The move is the latest EU measure against Chinese exports considered to be unfairly undercutting the EU's own businesses, ranging from steel and solar panels to ceramics.

1 Using the concept of fixed and variable cost, outline why a Chinese ebike producer might dump products onto the EU market.
2 Who might benefit and who might lose out from duties imposed on imported ebikes from China?

demand. If there is a variety of domestically produced substitutes, then the price elasticity of demand for imports is more likely to be high.

However, because supply chains are increasingly global, using protectionist measures is likely to raise the costs for many domestic firms who import raw materials and components from abroad. A rise in costs may cause these firms to lose their price competitiveness in international markets. This may cause the value of exports to fall. As a result, the deficit on the current account might remain largely unchanged.

### TO RAISE REVENUE

A tariff is a tax on imported goods. It is sometimes called an import duty or a customs duty. Tariffs can be used by governments to raise tax revenue. For some developing countries tariff revenue is an important source of income for the government. This is partly because it can be relatively easy to collect, if infrastructure at ports is developed enough, compared to other taxes. Other taxes, such as income tax, will raise relatively low levels of revenue in developing countries because income per capita is very low.

### TO HELP AN ECONOMY DIVERSIFY

Some small developing countries rely almost entirely on one crop, such as cocoa, bananas or sugar cane, for their economic wellbeing. These commodities are subject to large fluctuations in price on world markets. Falls in price can give rise to large falls in living standards in these economies. Diversifying, even if the newly established industries are uneconomic by world standards, could provide a valuable insurance policy against commodity price fluctuations. Trade barriers are one means of sheltering these industries from foreign competition.

## TYPES OF RESTRICTION ON FREE TRADE

### TARIFFS

A **tariff** is a tax on imported goods. It is sometimes called an **import duty** or a **customs duty**. Tariffs can be used by governments to raise revenue to finance spending. However, they are most often used in a deliberate attempt to restrict imports. A tariff, by imposing a tax on a good, is likely to raise its final price to the consumer (although occasionally a foreign supplier will absorb all the tariff to prevent this from happening). A rise in the price of the good will lead to a fall in demand and the volume of imports will fall. A tariff should also help domestic producers. Some consumers will switch consumption from imported goods to domestically produced substitutes following the imposition of a tariff. For instance, if the UK imposed a tariff on sugar cane imports, British-produced sugar beet would become more competitive and demand for it would rise.

This is shown in Figure 1. D is the domestic demand for a good. $S_{Domestic}$ is the domestic supply curve of the product. With no foreign trade, equilibrium output would occur where domestic demand and supply were equal at OL. However, with foreign trade, world producers are assumed to be prepared to supply any amount of the product at a price of OP. Consumers will now buy imported goods because the world price OP is below the domestic price OR. Domestic supply will fall back along the supply curve to OJ. Demand for the good will rise to ON. Imports must be JN if demand is ON and domestic supply is OJ. Now assume that the government of the country imposes a tariff of PQ per unit. The price to domestic consumers will rise to OQ. Domestic producers will not pay the tariff. Therefore they find it profitable to expand production to OK. Higher prices cause demand to fall to OM. Hence imports will only be KM. Expenditure on imports will fall from JTWN (price JT times quantity bought JN) to KYZM. Of that area KYZM, KUVM will be the revenue

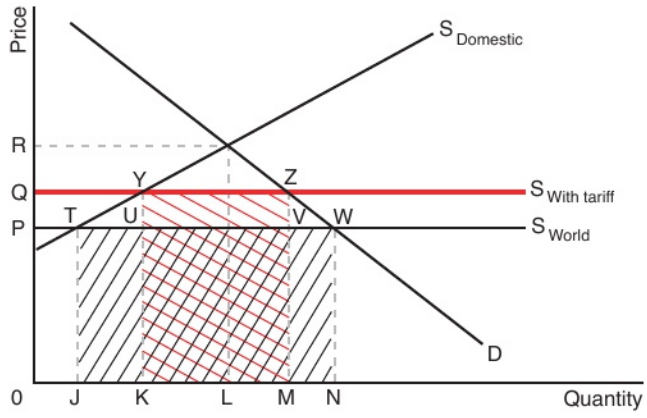
gained by foreign firms. The rest, UYZV, is the tax collected on the imports and will therefore go to the government.

There is a deadweight welfare loss to the country associated with the imposition of a tariff. In Figure 1, imposing a tariff leads to a loss of consumer surplus of PQZW. This is because consumers buy less at a higher price. Domestic producers gain producer surplus of PQYT. They produce more at a higher price and so gain producer surplus. The loss of consumer surplus is greater than the gain of producer surplus by the area TYZW. Of this, the government receives UYZV in revenues from the tariff. So the deadweight loss to the country in welfare from the tariffs is the sum of the two triangles TYU and VZW.

**FIGURE 1**

**Tariffs**

If the world price of a good is OP, a tariff of PQ will shift the supply curve upwards from $S_{World}$ to $S_{With\ tariff}$. Domestic consumption will fall by MN while domestic production will rise by JK. Imports will fall from JN to KM.




## NON-TARIFF BARRIERS

**Non-tariff barriers** are any restrictions on free trade, other than a tariff. Examples of non-tariffs barriers are quotas, subsidies, administrative barriers and exchange rate manipulation.

### Quotas

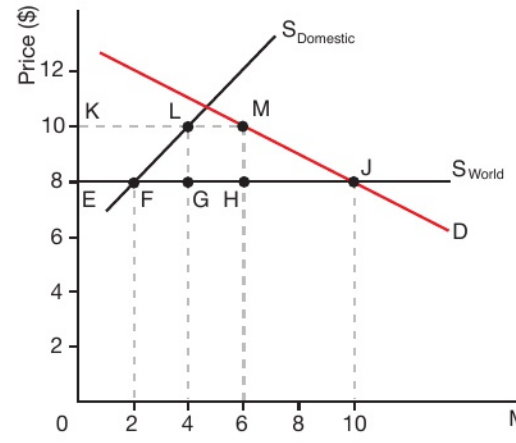
A **quota** is a physical limit on the quantity of a good imported. It is an example of a physical control. Imposing a limit on the quantity of goods imported into a country will increase the share of the market available for domestic producers. However, it will also raise the price of the protected product.

This is shown in Figure 2. The world supply price of a product is $8. Domestic demand shown by the demand curve D is 10 million units. Of that, two million are produced domestically. The remaining eight million are imported. Now assume that a quota of two million units is imposed on imports. Because quantity supplied is now four million units less than it would otherwise have been, price will rise to $10. Domestic production will rise to four million units. Domestic consumption is six million units. The rise in price has led to a reduction in demand of four million units. It should be noted that quotas, unlike tariffs, can lead to gains for foreign firms who export their goods to this market. It is true in Figure 2 that foreign firms have lost orders for eight million units. But those firms which have managed to retain orders have gained. They used to sell their units for $8. They can now get $10. This is a gain for them, shown on the diagram by the rectangle GLMH.

**FIGURE 2**

**Quotas**

If the world price of a good is $8, the introduction of a quota of two million units will reduce supply and raise the domestic price to $10. Domestic consumption will fall from 10 million units to six million units while domestic production will rise from two million units to four million units. Exporters of the two million units subject to the quota will make a gain. Before the imposition of the quota they could only get a price of $8 per unit. After the imposition of the quota they can charge $10 per unit.




As with tariffs, there is a deadweight welfare loss associated with a quota. The imposition of the quota reduces consumer surplus by EKMJ. This is because consumers buy less at a higher price. Domestic firms gain producer surplus of EKLF because their

production rises and is sold at a higher price. The difference between the loss of consumer surplus and the gain in producer surplus is the area FLMJ. Of this, GLMH is gained by foreign firms exporting into the country. So the deadweight welfare loss to the country is the whole area FLMJ. The deadweight welfare loss to the world economy is the two triangles FLG and HMJ, the welfare loss to the country minus the welfare gain to foreign firms.

### Subsidies

Subsidies can be used both to increase exports and to reduce imports.

- Export subsidies can be given by the government to exports. These subsidies might only be given on goods that are actually exported. For example, many countries subsidise exports of agricultural produce. This increases exports and supports farm incomes. Or subsidies might be given to products, firms or industries where exports are a large proportion of output. For example, the US aircraft manufacturer Boeing has on many occasions accused European governments of subsidising Airbus, the European aircraft manufacturer. Certainly, European governments have given financial support to Airbus and European governments want to support a strong aircraft manufacturing base in Europe to create exports and jobs.
- Governments can reduce imports by giving subsidies to domestic firms that compete with imports. These subsidies are almost always indirect subsidies rather than direct subsidies on domestically produced goods that compete with imports. For example, governments are most unlikely to give subsidies on steel produced domestically. But the government could give cheap loans or tax breaks on investment to domestic steel producers to allow them to compete more effectively with steel imports.

### Administrative barriers

There is a large number of different ways in which countries can put up administrative barriers to reduce imports or encourage exports. One common way is to impose product standards that differ from those in other countries. This raises the costs to importers because they have to adapt their products to the product standards set. Countries may simply ban imports because of a perceived problem with a product, for example, raising health and safety problems. Some countries make it difficult for importers by putting large amounts of red tape on imports. Importers may have to get licences to import. Imports may only be allowed in via certain ports or airports. Officials may take months to clear paperwork on imports. Goods might be delayed for months at ports because customs officials have to check containers. In some countries, importers may have to bribe officials to get goods into the country.

### Exchange rate manipulation

Governments can use exchange rates as a form of protectionist policy. Lowering the exchange rate will make exports cheaper and imports more expensive. Today, most exchange rates are free floating. Governments do not target a particular value of the exchange rate of their currency. However, some governments control their exchange rates in various ways. If these controls are used to lower the value of the currency, it will increase exports and reduce imports.

## IMPACT OF PROTECTIONIST POLICIES

Protectionist policies have an impact on consumers, producers, workers, governments, living standards and equality.

**Consumers** Protectionism tends to harm the interests of consumers. Either they are unable to buy imported goods at a lower price than goods produced domestically. Or they suffer restrictions on the range of goods being offered to them for sale. Their choice is therefore restricted. Protectionist policies also tend to raise the price of domestically produced goods. Goods and services in the supply chain of domestically produced goods may be subject to import restrictions. For example, if there are tariffs on the import of wheat, then the price of bread in the shops is likely to be higher. Equally, import restrictions limit competition for domestic producers. They have less incentive to become more efficient and lower costs or produce new innovative products. This is because domestic consumers have less choice about the products they buy with protectionism.

**Producers** Domestic firms can both gain and suffer from protectionism. If their domestic markets are threatened by imports, then protectionist policies can help keep out imports. This means higher output, higher sales and higher profits. Equally, if they benefit from measures to encourage exports, then their output and profits should be higher. However, over time domestic producers could become even less internationally competitive as the incentive to innovate and produce efficiently falls.

Other domestic firms could also suffer. If tariffs are imposed on steel imports, for example, domestic car manufacturers will suffer because they have to pay

higher prices for steel. This could increase their costs and make them less price competitive compared to foreign car manufacturers.

**Workers** Protectionist policies are often justified as necessary to maintain jobs. If protectionist policies were not implemented, firms would shed jobs or close down altogether. This protection is a short-term gain. However, it could be argued that workers in the long term would be better off if production did close down as a result of foreign competition. The market would reallocate resources into industries where the country was able to compete. New jobs would be created which had greater job security.

**Governments** Governments tend to benefit in the short term from protectionist policies. If tariffs are imposed, they gain higher tax revenues. If jobs are protected, they don't lose the taxes paid by those workers that would have been made redundant. In the long term, however, governments can lose out if protectionist policies result in an inefficient economy where growth is restricted. Their tax revenues will be smaller and they may have to pay out more in welfare benefits if unemployment is higher or worker's wages are too low to support them.

## ACTIVITY 2

SKILLS PROBLEM-SOLVING, COMMUNICATION, INTERPRETATION, ANALYSIS, CRITICAL THINKING

### CASE STUDY: THE IMPACT OF TARIFFS ON STEEL AND ALUMINIUM

In March 2018, the President of the United States, Donald Trump, imposed a 25 per cent tariff on steel imports and a 10 per cent tariff on aluminium.

One justification for the tariffs was that they would help the metals industry in the US. The volume of steel imports from the countries hit by the tariffs and quotas was 36 per cent lower in June 2018 then a year previously. The fall in aluminium imports was 27 per cent. As prices rose, so did production.

Although the US metal producers have gained, higher prices for steel and aluminium are a burden for those US firms who are metal users; and these account for a far higher share of American jobs. Industries such as construction and car-makers are disadvantaged because costs have increased and overseas competitors may be able to sell more cheaply than them.

1 Using a tariff diagram, show why the tariffs imposed on aluminium and steel imports would be expected to increase US production of these metals.
2 What are the problems of these tariffs for US metal user firms, such as car manufacturers?

**Living standards** Protectionism in the short term may protect living standards. However, if protectionism leads to a less efficient, slower growing economy in the long run, then there will be a negative impact on living standards.

**Equality** Trade unions are often in favour of protectionist policies. They want to protect their member's jobs against 'unfair competition' from abroad. Trade union membership tends to be associated with higher wages than would be the case if the firm or industry was not unionised. So protectionist policies may serve to create greater equality where unionised jobs are threatened. Equally, in farming, small farmers are often in favour of protectionism for their products. It raises their incomes, which are often low because they are too small and inefficient. Again this might create a more equal distribution of income. However, these benefits are likely to be short-term benefits. If protectionism leads to lower growth, over time workers are likely to lose out in absolute terms even if in relative terms they have maintained their incomes.

## FREE TRADE VS PROTECTIONISM

LINK Student Book 2, Chapter 23

Supporters of free trade argue that it leads to a more efficient allocation of resources between countries, allowing for specialisation. It also encourages competition between producers, reducing costs of production and leading to innovation and greater choice for consumers; this leads to both static and dynamic efficiencies.

Raising protectionist barriers always carries the risk that other countries will raise barriers in response. This is called a tit-for-tat response. In the 1930s, so-called beggar-thy-neighbour policies proved disastrous for the world economy. Countries raised protectionist barriers to cut imports and protect their industries. They hoped that other countries would not respond. They could then take jobs away from these other countries, harming their economies. However, other countries did respond and world trade collapsed. Everyone was worse off as a result of high tariffs.

During the Global Financial Crisis, countries avoided introducing trade barriers as a response to the crisis. This was probably due to the lessons learned from the 1930s. However, a WTO report in 2014 noted that the G20 countries had introduced more measures to restrict trade than encourage it between mid-November 2013 and mid-May 2014. In 2016 the WTO reported that this trend had begun to rise more rapidly.

The risk of a trade war between the US and China was particularly high in 2018. The US said that it wanted to reduce its large trade deficit with China. The US believed that this deficit was in part due to unfair practices used by China. US businesses operating in China had long complained about intellectual property theft and forced technology transfers. The state support of industries in China, such as aluminium and steel, was also a cause for concern, as well as claims of currency manipulation of the renminbi. The US president said he wanted to protect US jobs.

By 2018, the threat of 'tit-for tat' behaviour between the US and China, which would cause barriers of trade to increase rapidly, was a cause for concern. The increasing use of restrictions on free trade was reducing global growth forecasts. If supporters of free trade are correct, economic growth rates fall as protectionism rises. A fall in the economic growth of China and the US, the two largest economies in the world, would have a negative impact on many other countries.

## CHECKPOINT

1 Why might an infant industry need to be protected?
2 What is meant by the term 'dumping'?
3 Draw a tariff diagram accurately.
4 Using the diagram, identify and explain what is meant by the term 'deadweight welfare loss'.
5 What is a quota?
6 What are the two types of subsidies used which restrict free trade?
7 State two ways in which protectionist policies might affect consumers.
8 State one reason why producers might gain from protectionism and one way they might suffer.
9 How might restrictions on free trade affect governments?

## SUBJECT VOCABULARY

**dumping** the sale of goods at less than cost price by foreign producers in the domestic market

**free trade** international trade conducted without the existence of barriers to trade, such as tariffs or quotas

**geriatric industry** an industry which is in decline

**infant industry** an industry which is just starting up and in its early stages of development

**national security** the security of a nation state; both military and non-military dimensions, such as energy security, food security, cyber security and environmental security, are included

**non-tariff barrier** restriction on free trade other than a tariff

**protectionism** government actions or policies that restrict international trade

**quota** a physical limit on the quantity of an imported good

**restrictions on free trade** or **trade barriers** any measure which artificially restricts international trade

**tariff or import duty or customs duty** a tax on imported goods which has the effect of raising the domestic price of imports and thus restricting demand for them

## THINKING LIKE AN ECONOMIST

### RWANDA REFUSES TO REMOVE TARIFFS ON IMPORTS OF USED CLOTHING

In most rich countries, individuals sort through their used clothes and donate them to their local charity shop. However, in most rich countries the supply of used clothing far exceeds the demand. So, private companies in America and Europe buy up the surplus donations from charities and export them to the developing world: Africa is the largest market.

In Africa, these used clothes are a valuable commodity. In a market in Kigali, Rwanda's capital, a Tommy Hilfiger shirt sells for 5000 Rwandan francs, a plain one for a tenth of that.

Some suspect that high-quality unworn clothing is coming into developing countries as a way for the rich world's clothing industry to offload samples and unsold items: in other words, a form of dumping.

According to research in 2008 by Garth Frazer of the University of Toronto, about half of the fall in employment making clothing in Africa between 1981

and 2000 was caused by second hand imports. At UTEXRWA, a textiles and clothing factory in Kigali, the plant operates at 40 per cent of capacity and employs 600 workers, down from 1100 in the 1990s. It is hard to compete, says Ritesh Patel, then manager, when a used T shirt sells for the price of a bottle of water.

In 2016 Rwanda's government increased import duties on a kilo of used clothes from $0.20 to $2.50. The hope is that Rwanda can build up its clothing manufacturing industry.

So, what will be the impact of the higher tariffs?

Mr Patel, the manager at UTEXRWA, thinks the tariffs will not help much. 'The big challenge is not second-hand clothes or Chinese clothes,' he says. 'It's buying power.' Although the government is promoting 'Made in Rwanda' products, firms like UTEXRWA cannot produce cheaply enough for most local consumers. Unreliable electricity supply and expensive credit keep costs too high. New clothing manufacturers, which have opened in special economic zones, mostly sell in the export markets.

Several countries have already tried import bans. However, used clothing still finds its way in. Smugglers just carry clothes across the border in a suitcase, pretending that they are their own.

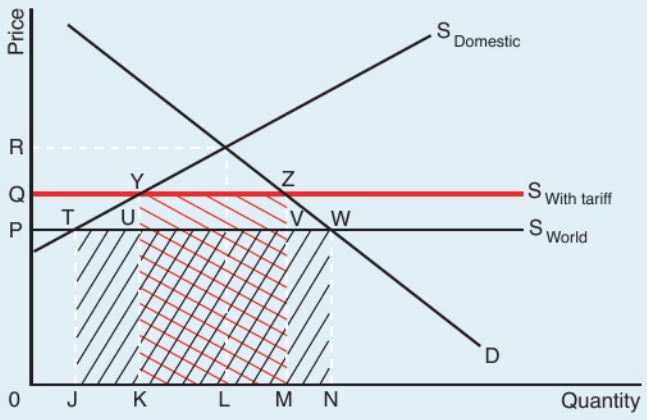
If used clothes do become too expensive, the gap in the Rwandan market will probably be filled by imports from China. The immediate losers will be consumers, who will pay more. A survey by the American government found that 95 per cent of used clothing imports in East Africa are bought by the poorest 40 per cent of the population.

Exporters in America claim the tariffs are costing jobs. In March 2018, Mr Trump, the President of the United States, said he would suspend Rwanda's duty-free access to American markets for clothing after 60 days if it did not remove the tariffs. The deadline has already expired. However, the threatened suspension would hurt, but not very much. In 2017, Rwanda only exported £1.5 million of apparel to America.

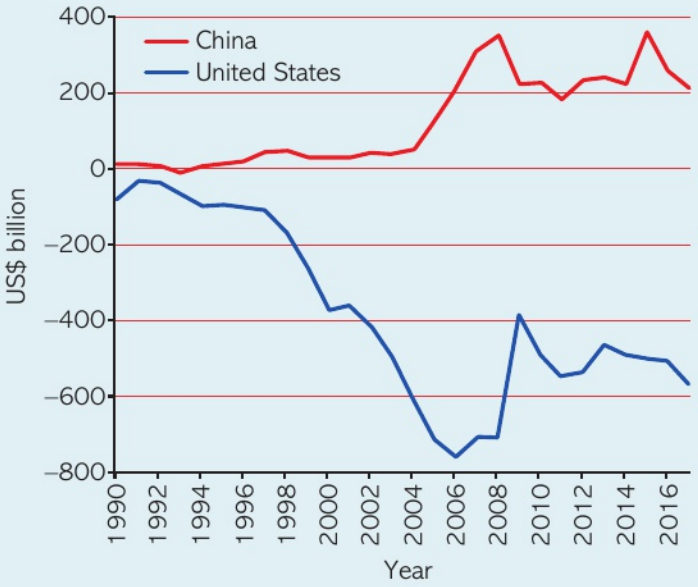
# EXAM PRACTICE

## THE ESCALATING US TRADE WAR WITH CHINA

**SKILLS** PROBLEM-SOLVING, REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING




▲ Figure 3 The imposition of a tariff




▲ Figure 4 Net trade in goods and services, balance of payments (current US$, billion)

## EXTRACT A: CHINA'S FACTORIES EYE SOUTH-EAST ASIA TO AVOID US TARIFF THREAT

By July 2018, the US government had already imposed or announced 25 per cent tariffs on $50 billion of high tech products and industrial machinery. It was proposing to implement 10 per cent tariffs on a further $200 billion of Chinese exports, including some consumer goods. such as furniture.

As a result, some manufacturers in China were considering moving production to Vietnam and other lower wage cost countries in South-East Asia. Factory owners say existing tariffs and uncertainty about future US restrictions on free trade are making them accelerate their plans to diversify production beyond China.

But manufacturing executives said shifting production out of China would take several years of planning. It is expensive and complicated to open factories in locations with different legal systems. Factories exporting to the US must meet a wide range of environmental, labour and quality standards and it takes time to ensure that production facilities in new countries are meeting the standards needed. There was also the risk that the US government might extend tariffs to countries such as Vietnam, to avoid 'tariff jumping'.

## EXTRACT B: TRUMP TARIFFS AND THE US TRADE DEFICIT

During 2018, the US government imposed a series of tariffs on imports to the US, including on imports of steel and aluminium and on $50 billion of goods from China. The president thinks the tariffs will help to reduce the US trade deficit, which was $568 billion in 2017 (or 2.9 per cent of GDP).

Although the imposition of tariffs is likely to reduce imports, it cannot be assumed that the value of exports will remain unchanged, according to research by the Federal Bank of New York's Research and Statistics group (Fed). They point to China's experience after the country reduced import tariffs after joining the WTO in 2001. Between 2000 and 2006, the average import tariff fell from 15 per cent to 9 per cent, while both China's imports and exports increased enormously.

In a separate research paper, the Fed found that, by lowering tariffs in the period, Chinese firms experienced lower production costs and higher productivity. This enabled them to price exports more competitively and win US market share. Those industries that saw the biggest reduction in input tariffs increased their exports to the US the most.

'The evidence from China's experience strongly suggests that a country that increases its tariffs is likely to not only reduce its imports but also reduce its exports,' said the Fed's analysis.

Q

1 In 2018, the African Union was seeking billions of dollars in aid. This was to support governments whose revenue will fall, as tariffs are cut, when they join the continent's free trade area. In the tariff diagram in Figure 3, assume the tariff per unit, equivalent to QP, is removed. What will be the tariff tax revenue lost by members? **(1 mark)**
(a) TYZW (b) YKMZ (c) QZWP (d) YUVZ

2 In Figure 3, J is 10,000 units, K is 15,000 units, L is 25,000 units, M is 35,000 units and N is 45,000. If the tariff imposed on imports is $15 per unit, calculate the tariff revenue for the government. **(2 mark)**

3 Read the extracts and answer the following.
(a) Explain what is meant by the term 'restrictions on free trade' (Extract A). **(4 marks)**
(b) With reference to Extract A, analyse the likely impact of further tariff increases on goods and services imported into the US, on the production of US firms. **(6 marks)**
(c) With reference to Extract B, examine the likely impact of the imposition of tariffs, by the US, on its current account deficit. **(8 marks)**
(d) With reference to the information available, discuss the likely impact on the Chinese economy if the US continues to increase tariff and non-tariff barriers on Chinese goods. **(14 marks)**

4 By 2018, a wave of protectionism, particularly between the US and China, seemed to be threatening the global economy. Evaluate the extent to which the use of protectionist measures by a government can be justified. **(20 marks)**

### EXAM HINT

In Question 3c, use a tariff diagram to explain why imports will fall. What is the likely impact on the current account deficit? Further analysis would include reversing China's experience of lowering tariffs to argue why the value of US exports might also fall.

### EXAM HINT

Question 3d is the type of question that needs to bring together a wide variety of concepts and themes covered throughout the course. Use Figure 3 and Extract A to support some of your arguments.

### EXAM HINT

For Question 4, it is useful to consider how the reasons for restrictions on free trade might be balanced by the arguments which support free trade.

# BALANCE OF PAYMENTS, EXCHANGE RATES AND INTERNATIONAL COMPETITIVENESS

All components of the balance of payments are explained at the beginning of this section. What causes a deficit or surplus on a country's current account is also explored, along with the significance of global trade imbalances. Different exchange rate systems are introduced as well as reasons why exchange rates change. Movements in exchange rates and their impact on the economy – such as the current account, economic growth and unemployment – are all explored in this section. Most firms and countries want to be internationally competitive. What affects international competitiveness is discussed as well as policies a government might introduce to improve this.

# 28 BALANCE OF PAYMENTS

UNIT 4
4.3.3

## LEARNING OBJECTIVES

- Know the components of the balance of payments:
  - the current account
  - the capital and financial accounts
- Understand the causes of deficits and surpluses on the current account
- Understand measures to reduce a country's imbalance on the current account
- Understand the significance of global trade imbalances

## GETTING STARTED

Tata Group is an Indian transnational company. In 2008, it bought the UK-based Jaguar and Land Rover companies from Ford, the US transnational motor company. In 2015, Land Rover announced it was to double the size of its plant in the UK, investing in extra capacity for its highly successful range of vehicles. Give 10 examples of foreign currency transactions that this activity might have generated.

## COMPONENTS OF THE BALANCE OF PAYMENTS

The **balance of payments** records all financial transactions made between residents of one country and the rest of the world. These residents are made up of consumers, businesses and the government.

Flows of money into the country are given a positive (+) sign on the accounts. These inflows are recorded as a credit item. Flows of money out of the country are given a negative (–) sign. These outflows are recorded as a debit item.

LINK Student Book 1, Chapter 24

The components of the balance of payments were introduced in Student Book 1, with particular reference to the **current account**. This is developed in this chapter.

The balance of payments accounts can be split into two components:

- The current account is where payments for the purchase and sale of goods and services are recorded, along with primary and secondary income flows. The cross-border income flows are associated with the international ownership of financial assets and current transfers of money between residents and non-residents.
- The capital and financial accounts are where flows of money associated with saving, investment, speculation and currency stabilisation are recorded.

The **capital account** shows the credits and debit items for non-produced, non-financial assets and capital transfers between residents and non-residents. For example, it records purchases and sales of assets such as land sold to embassies and sales of leases and licenses. It also records capital transfers, such as debt cancellation. The capital account is usually relatively unimportant compared to the flows recorded on the financial account.

The **financial account** records almost all the flows of financial capital into and out of a country. The financial account records transactions that result in a change of ownership of financial assets and liabilities between residents and non-residents: It is split into three main parts.

- Part of foreign direct investment (FDI) is flows of money to purchase a controlling interest in a foreign firm. A controlling interest is defined as 10 per cent or more of the ordinary shares or voting power of a firm. For example, if BT, a UK company, was to buy 15 per cent of the shares of a telecommunications company in Brazil,with cash for the purchase transmitted from the UK to Brazil, then this would be classified as FDI. Part of FDI is reinvested earnings: profits of foreign-owned companies which are reinvested in the company. If BT earned $10 million as its share of the profits made by a US subsidiary but chose to reinvest this $10 million in the company, it would be classified as FDI.
- Portfolio investment includes flows of money to purchase foreign shares where this is less than 10 per cent of the company. It also includes flows of money to purchase debt securities such as bonds (long-term loans issued by governments and firms).
- 'Other investments' is investment other than direct and portfolio investment. It includes trade credit, loans, purchases of currency and bank deposits.

## REASONS FOR INTERNATIONAL CAPITAL FLOWS ON THE FINANCIAL ACCOUNT

World capital flows have been growing over time at a much faster rate than growth in world GDP. This has been one aspect of globalisation. International capital flows occur for a number of reasons.

- Speculators are looking for quick profits. Shifting capital round the world and buying and selling debt and shares, trying to spot which currency will appreciate in value and which will fall, are an inevitable part of the world capitalist system. Short term capital flows are often referred to as hot money. International speculation is, in motivation, no different from an individual who moves part of his savings from one bank account to another to take advantage of a higher rate of interest. Speculators perform an economic function because they help to bring adjustments in prices to reflect longer-term demand, supply and price conditions.
- Capital flows are an essential part of the finance of trade. A Polish resident may take out a German loan to buy a car. A German firm may take out a loan from abroad to finance the purchase of a machine from abroad.
- Banks in one country are finding it increasingly profitable to lend to economic agents in another country on a short-term basis. A UK bank, for example, may decide to expand its operations in the French loan market.
- Individuals transfer funds abroad for a number of reasons. One is that they might have a holiday house in another country. Italian residents who have holiday houses in Spain or France may transfer funds into a Spanish or French bank account. Tax evasion is another reason why residents of one country might want to transfer funds into a foreign bank account.
- Foreign direct investment occurs because a firm in one country can see that it can make a profit by investing in the longer term in a firm in another country.
- Portfolio investment (a combination of assets, typically stocks, bonds, and cash equivalents) may occur for the same reasons as FDI or it may be more speculative in motivation.
- Part of portfolio investment is investment in government bonds, a form of long-term loan to governments. Governments may encourage foreigners to buy their bonds to increase the amount of credit available within a national economy.

## THE RELATIONSHIP BETWEEN THE CURRENT ACCOUNT, CAPITAL ACCOUNT AND FINANCIAL ACCOUNT

The current account balance and capital account balance show whether the economy is a net lender to the rest of the world or a net borrower from the rest of the world. The financial account is the counterpart to the combined current account and capital account. This means the balance on the financial account is equal to the sum of the current and capital account balances.

If a country is running a deficit on the current and capital account, the financial account records how the country is financing its deficit from the rest of the world. This is shown by money inflows on the financial account. So, a deficit on the current account means a country is building up its liabilities (how much it owes) to the rest of the world. Eventually these debts will have to be paid back.

If a country is running a surplus on the current and capital account, the country is lending to the rest of the world. This is shown by money outflows on the financial account. Lending to the rest of the world means a country is buying foreign assets.

| United States<br>US dollars (billions) | |
|---|---|
| Current account | –449 |
| Capital account | 25 |
| Balance on current and capital account | –424 |
| Financial account | +330 |
| Drawing on reserves | +2 |
| Balancing item | +92 |
| Balance | 0 |

▲ **Table 1 The balance of payments for the United States**

Note: Adapted. The data for the current account and financial account excludes reserves and related items.

Table 1 shows the relationship between the current account, the capital and financial accounts. In 2017, the United States current account was in deficit by $449 billion. This means that there were $449 billion more imports of goods and services and outflows of money on primary and secondary incomes, than there were exports of goods and services and inflows of money on primary and secondary incomes. The combined current and capital account balance is –$424 billion. If there is a deficit on the current and capital account balance, there must be a surplus on the financial account. This is because the balance of payments must always balance and add up to zero.

In 2017, the financial account surplus for the US was $330 billion. This is less than the deficit recorded on the balance on current and capital accounts by $94 billion. Some of this is explained by the US central bank selling some of its reserves of foreign currency to finance some of the deficit on the current account. In 2017, reserves of 2 billion US dollars were sold. This still leaves a shortfall of $92 billion. Because the balance on the financial account, including the changes in reserves, must be equal to the sum of the balances on the current and capital account, the difference of $92 billion is known as the balancing item or net errors and omissions. It is the sum of all the transactions that fail to be officially recorded by the statisticians compiling the balance of payments account. Some of the items missed are because individuals and firms who should send in accurate information fail to do so because they want to avoid tax or because they are taking part in other illegal activities.

Table 2 gives a breakdown of inflows and outflows on the current, capital and financial accounts for 2017. Inflows of money into the US are recorded as positive items, outflows of money from the US are recorded as negative items. The current account balance overall is in deficit, but the primary income component did record a surplus in 2017. All other components of the current account recorded more money flowing out of the US than flowing in.

Table 3 shows how the financial account is recorded using an asset and liability approach. It shows whether a country was a net lender to the rest of the world or a net borrower from the rest of the world over a period of time such as a year. The financial account shows that the US was a net borrower from the rest of the world in 2017. This is because its liabilities to the rest of the world (what it owed to foreigners) were greater than the amount foreigners owed to the US (the foreign assets owned by the US) in 2017. Hence the financial account showed net liabilities of $330 billion. This will be recorded as an inflow of money on the balance of payments in Table 2. For example, if foreign direct investment comes into the US from Japan, money comes into the US. However, the inward FDI creates a liability to Japan because US assets are now owned by individuals or firms in Japan. So this will be recorded as a direct investment liability in the US financial account. A US citizen buying shares in a Japanese company is money flowing out of the US. This is recorded as a portfolio asset in the financial account for the US, since these foreign assets are now owned by US citizens.

| Balance of payments for the US (US dollars billions) | 2017 |
|---|---|
| Balance on goods and services | –552 |
| Primary income (credit) | 928 |
| Primary income (debit) | 706 |
| Secondary income (credit) | 154 |
| Secondary income (debit) | 273 |
| **Current account balance** | **–449** |
| Capital account (credit) | 25 |
| Capital account (debit) | 0 |
| **Balance on current account and capital account** | **–424** |
| Financial account | +330 |
| **Balance on current, capital and financial accounts** | **–94** |
| **Drawing down reserves** | **2** |
| **Net errors and omissions** | **92** |
| **Balance** | **0** |

▲ Table 2 The balance of payments for the US, 2017 (adapted)

| Financial account US 2017 (US dollars billions) | |
|---|---|
| Direct investment assets | 379 |
| Direct investment liabilities | 355 |
| Portfolio investment assets | 587 |
| Portfolio investment liabilities | 799 |
| Other investment assets | 242 |
| Other investment liabilities | 384 |
| **Financial account** | **–330** |

▲ Table 3 Financial account US 2017 (US dollars billions) (adapted)

## CAUSES OF SURPLUSES AND DEFICITS ON THE CURRENT ACCOUNT

The current account balance of a country is never likely to equal zero. The current account is made up of millions of different transactions. So, countries can expect surpluses and deficits to occur in the short term. In the long term, countries can be split into three groups:

- countries where the current account broadly is in balance such as France or Chile
- countries which run persistent **current account surpluses** such as Norway, China, Germany and Switzerland
- countries which run persistent **current account deficits** such as the UK, the US, Turkey, Poland and Australia.

There are a number of reasons why countries run persistent surpluses or deficits on their current accounts.

**Natural resources** Some countries sell large quantities of natural resources relative to the size of their population. For example, both Norway and Saudi Arabia are large oil producers but have small populations. They then tend to run large current account surpluses because there is little pressure to use the money from exported oil to fund imports.

**Underlying competitiveness** Some countries have acquired over time an underlying competitiveness which makes their goods particularly attractive to foreign buyers. These countries are likely to experience a current account surplus.

Both price and non-price competitiveness will be important to attract demand from foreign buyers. Germany, for example, has developed expertise in machine tools. Low- and middle-income countries can benefit from having cheap labour. Competitiveness may be based on quality and design of goods and services. Firms in a country may have developed a reputation internationally for quality and design which gives them a competitive edge. Competitiveness may also be based on labour productivity. If output per worker is relatively high, this should give a country a cost advantage compared to countries which have low labour productivity.

**Exchange rates** Some governments deliberately keep their exchange rates artificially low. This means that the prices of their exports are lower than they would be if the exchange rate was fixed by free market forces. It also means that imports are more expensive to buy in local currency terms. Exchange rate manipulation which dramatically reduces the exchange rate can then lead to persistent surpluses on the current account. Equally, some countries keep their exchange rates artificially high. This keeps the price of imports low for consumers and firms, increasing their spending power. However, an artificially high exchange rate makes exports more expensive to foreigners. With more imports and fewer exports, these countries are likely to run persistent current account deficits.

**Domestic demand** If aggregate demand is high in an economy, then imports are likely to be high. As national income rises, spending on imports rises. The concept which links changes in income to changes in imports is the marginal propensity to import. So reflationary or deflationary policies can cause current account deficits or surpluses. The overall impact on the current account will also depend on aggregate demand in the economies of a country's main trading partners. If there is a recession in a country which is an important export market, then an economy's exports are likely to fall in the short run.

**Overspending by consumers and government** Deficits can be a sign that consumers and government are overspending. In order to finance that consumption, they are borrowing funds from abroad. When this borrowing reaches critical levels, it can destabilise an economy. Countries like Argentina, Greece and Portugal have all found, for example, that excessive government borrowing abroad leads ultimately to a financial crisis when foreigners decide that debts are too high and there is a strong risk that the countries will not be able to pay off their debts. Countries in this situation face a difficult choice. If they default on their debts, i.e. refuse to pay all of their debts, then they will be cut off from the world financial system as Argentina found in the 2000s after the Argentinian government defaulted in 2001. Or domestic spending has to be cut back to create a current account surplus which allows for the repayment of debt. This is the situation that Greece and Portugal have found themselves in since the financial crisis of 2008.

**Commodity prices** For some countries the export of commodities is an important part of their balance of trade. If commodity prices fall on global markets, then exports will fall. This could cause a current account deficit over this period. Equally commodity importers are likely to see an improvement on their current account.

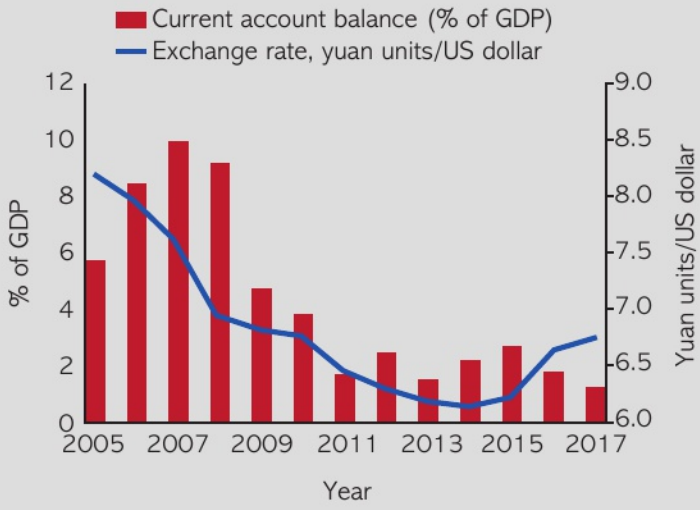
**Inflation** Relatively high rates of domestic inflation compared to international competitors will quickly reduce price competitiveness of exports and of domestically produced goods competing against imports. High inflation without a corresponding fall in the exchange rate can therefore cause growing current account deficits.

**Age composition of the population** Changes in the age composition of the population of an economy will affect the current account. Younger people tend to have a lower savings ratio, so consumption is a relatively high proportion of their income. This suggests that spending on imports will be relatively high. However, those in middle age tend to save more to build up their stock of wealth for when they are older. So populations which have a high proportion of middle aged people may result in fewer imports, leading to a current account surplus. Germany often uses the ageing population argument as a reason why it is running current account surpluses.

## ACTIVITY 1

SKILLS: REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: EMERGING MARKET CURRENT ACCOUNT SURPLUS FALLS TO 20 YEAR LOW




▲ Figure 1 China's current account balance and the value of the yuan

In 2007 China's current account surplus was 9.9 per cent of GDP, but this has steadily fallen to just 1.3 per cent in 2017. China's current account surplus has fallen while the currency (the renminbi) has strengthened from more than RMB 8 to the dollar in 2006 to RMB 6.31 per dollar in 2018.

However, analysis suggests the rising renminbi has done little to reduce China's trade in goods surplus. Instead, the fall in the current account surplus has been caused by a substantial widening of its deficit in services, from $15 billion in 2011 to $265 billion in 2017. Within that, the role of tourism played a big part. The net travel deficit explained 85 per cent of the net services deficit over the past 5 years.

The analysis said that a further 1.5 percentage point fall in the savings rate to fund foreign travel would be enough to eliminate the surplus on the current account. This could possibly happen. Already the Chinese household savings ratio has fallen from a 31 per cent average in 2008–2010, to a 25.5 per cent average between 2013–2015.

1 Using Figure 1 and the passage, explain the likely effect of the rise in the value of the renminbi on China's current account balance. (Note: The yuan is the basic unit of the renminbi.)
2 Explain why a fall in China's household savings ratio is likely to reduce China's current account surplus.

## MEASURES TO REDUCE IMBALANCES ON THE CURRENT ACCOUNT

There is a variety of ways in which a government can affect the current account of its economy.

### EXCHANGE RATE CHANGES

If an economy is running a persistent deficit on its current account, then a currency devaluation or depreciation is likely to increase exports and reduce imports. A fall in the value of the currency should make exports cheaper to foreigners while making imports more expensive for domestic buyers. This assumes that the combined elasticity of demand for exports and imports is greater than one, the Marshall–Lerner condition. In the short term, the current account deficit may become worse because of the J curve effect (explained in Chapter 30) but in the long term the current account should improve. Depreciation or devaluation is an example of an **expenditure switching** policy. Expenditure is switched from higher priced imports to more price competitive domestically produced products. Expenditure is also switched from products for sale in the domestic market to exports (products for sale in foreign markets). Devaluation or depreciation will be more successful if:

- price elasticities of demand for exports and imports are relatively high. If exports and imports are mainly being bought on quality or because they are different from domestically produced goods, changing prices for exports and imports will have much less impact on demand.
- resulting cost-push inflation is low. Depreciation or devaluation will inevitably push up the prices of

some imported goods, including raw materials. If a cost-push spiral develops with workers receiving higher pay rises because inflation has increased, this will feed back into costs for firms, leading to them raising their prices, including exported goods and domestically produced goods which compete against imports. The higher the rise in domestic prices resulting from a depreciation or devaluation, the smaller the impact on the current account.

If an economy is running a persistent surplus, then raising the value of the currency should lead to a reduction in the current account surplus in the same ways that a fall in the value of the currency will reduce a current account deficit.

It should be remembered that **devaluation of a currency** means that the government has somehow fixed its value against other currencies. Many developing countries use different varieties of fixed exchange rate. However, developed countries almost all have floating exchange rates. Their central banks can intervene in the market to change the value of the currency by buying and selling currency. However, their interventions are likely to move the currency value up or down for only a relatively short period of time and by a small amount. A more important way of depreciating or appreciating a currency is for the central bank to lower or raise interest rates. This affects investment flows across the foreign exchange markets.

A cut in interest rates will lead to a fall in the value of the currency and should lead to a rise in exports and a fall in imports. However, a cut in interest rates will also lead to an increase in both consumption and investment because the cost of borrowing is lower. This will lead to a rise in imports. The overall impact on the current balance will depend on the relative importance of these rises and falls in exports and imports.

## DEFLATIONARY POLICIES

These policies are aimed at reducing aggregate demand in the economy, for example by raising interest rates or increasing taxes. Deflationary policies reduce income and therefore the demand for imports. They can therefore be used to reduce a current account deficit. Deflationary policies mean households will have less money to spend and so they will reduce their consumption of domestically produced goods and imported goods. Equally, firms will cut back on investment including purchases of imported capital equipment. Imports therefore decline. Exports may also rise if domestic firms switch sales from the depressed domestic market to foreign markets. These policies are examples of **expenditure reducing** policies because they work by reducing aggregate demand.

Deflationary policies will be more effective if:

- the marginal propensity to import (MPM) is high. The MPM is the change in imports divided by the change in national income. The higher the fall in imports for every $1 fall in income, the greater will be the improvement on the current account.
- they lead to a significant fall in the domestic rate of inflation. A fall in the rate of inflation relative to other countries will give exports a competitive edge in terms of price. Equally, it will make imports less price competitive.

A government wanting to reduce a current account surplus could adopt reflationary policies. Higher spending will increase imports and should also lead to higher inflation, leading to a loss of international competitiveness.

## SUPPLY-SIDE POLICIES

Supply-side policies aimed at reducing unit labour costs, increasing investment, increasing the skills of the labour force and improving the quality and design of products should lead to increased exports and reduced imports. The major problem with supply-side policies is that they are almost always long-term policies. Devaluing a currency or deflating the economy can affect the current account within a few years. Supply-side policies often take decades to improve the competitiveness of an economy.

## PROTECTIONISM

Increasing tariffs or quotas or other protectionist measures will reduce imports, thus improving the current account position. Protectionist policies are an example of expenditure switching policies. They work by getting households and firms to change their spending from imports to domestically produced goods and services.

Tariffs and quotas can both have a significant impact in the short term. However, protectionism is not much favoured by economists. First, the country is likely to find itself becoming even more internationally uncompetitive in the long run as its domestic industries have no incentive to improve their efficiency. Second, protectionism in one country invites responses from its trading partners. The country could find that the gains on current account from reduced imports are more than matched by losses of exports as a result of tariffs imposed by other countries.

Increased protectionist measures are also forbidden except under certain specific circumstances by the WTO (the World Trade Organization). Membership of a trading bloc such as the European Union severely limits the ability of individual countries to limit imports through protectionist policies.

## CURRENCY CONTROLS

A government may choose to impose or tighten currency controls or foreign exchange controls. These are controls on the purchase of foreign currency by domestic citizens and firms. Many countries today have currency controls including Pakistan, Russia and Venezuela in 2015. Restricting the purchase of foreign currency limits the amount of imports that consumers and firms can buy. The tighter the currency controls, in theory, the lower will be the level of imports. In practice, black markets develop to get round the restrictions and inefficiency results. Currency controls are often linked with or lead to corruption and bribery because some government officials can illegally divert scarce foreign currency to selected individuals or firms.

## THE SIGNIFICANCE OF GLOBAL TRADE IMBALANCES

One country's current account surplus is another country's current account deficit. The current accounts of all the countries in the world must add up to zero. If one country succeeds in turning a deficit into a surplus, this can only happen because other countries experience an equal and opposite movement in their current accounts.

Countries with large surpluses, therefore, are directly creating instability in the world's economic system, just as much as those running large deficits. For example, a major cause of the US current account deficit over the past 15 years has been China's surplus. The US has bought large amounts of goods from China and found it more difficult to export its own goods because other countries too have been buying Chinese goods. The Chinese central bank now has trillions of US dollars, which it has lent back to the US. This lending allows the US to carry on spending abroad.

Since the late 1990s, there have been concerns about global imbalances. These can be measured in two ways:

- imbalances on the current account of the balance of payments
- imbalances in assets owned abroad or borrowing from abroad.

The two are linked. If a country has a persistent current account surplus, it will tend to build up a stock of assets abroad. If it has a persistent current account deficit, it will owe more and more to foreign creditors. This is no different from a household. If a household consistently spends $5000 more per year than it earns, then after 10 years its borrowing, all other things being equal, will be $50,000 plus interest.

If imbalances are small, there is little problem. If a household earns $40,000 a year and spends $40,500, over a 10-year period it might have run up debts of $5000 plus interest. But on an income of $40,000, this is not particularly significant. If imbalances are large, however, there can be major problems.

Persistently running a current account deficit means a country is building up its liabilities to the rest of the world. Money is flowing in on the financial account, but eventually this must be paid back. A persistent current account deficit may not be regarded as a major problem if:

- the borrowed funds are used to help finance long term growth, because the country is ensuring it has the ability to repay this borrowing in the future. Many developing countries do not generate sufficient savings to fund investment (this is called a savings gap, discussed in Chapter 40). So for them, running a current account deficit might be a way of borrowing to fund investment. Importing capital goods will help to achieve long term economic growth. Supply-side growth is likely to make a country more price and non-price competitive, so this will help a country run a current account surplus in the long run. High economic growth also means the debt owed to foreigners is a small proportion of GDP.
- it can be financed easily by inflows on the financial account. Whether running a current account deficit creates a problem for an economy will depend upon how large its foreign liabilities are in relation to the country's ability to repay these debts. Borrowing money also incurs a cost (for example, the annual interest or profit flows out of the country). This should be balanced against the use of the borrowing to generate long term growth

However, running a current account deficit may be a problem if:

- the country cannot finance it with inflows on the financial account, making it unsustainable. If foreign individuals, firms and governments are suddenly unwilling to provide finance, then a country can no longer run a current account deficit. This means consumption, government spending and investment must fall sharply, so that spending on imports is balanced with exports. So, running a current account deficit may lead to a demand-side shock to the economy.
- it indicates a lack of international competitiveness for a country. This may be causing rising unemployment in the country.
- it results in depreciation of the currency, which might lead to higher inflation.

One way for countries to attempt to correct their deficit is through a devaluation of their currency. However, countries in surplus may consider this a threat to their exports and devalue their currencies in return.

'Competitive devaluation' therefore can lead to no relative change in currencies. Putting up protectionist barriers is another option but equally risks responses from other countries. If every country puts up protectionist barriers, every country is likely to lose out. Even highly successful supply-side policies will not necessarily bring about significant improvements in the current account. This is because other surplus countries may also be implementing successful supply-side policies which allow them to retain their competitive advantage.

In the 1970s, Western developed countries adopted a system of floating exchange rates because the previous system of fixed exchange rates had proved impossible to maintain. Since then, governments of these countries have become much less concerned about running deficits. Countries like the UK and the US have had no problems financing these deficits and net borrowings have not built up in an unsustainable way. So deficit countries do not necessarily have significant problems. Countries that have got into problems have almost always had governments which spent too much and financed this through borrowing large proportions of this money from overseas investors in foreign currencies. It is when governments can't repay their foreign currency debts that current account deficits tend to become a problem.

It should also be remembered that surplus countries pay a price for running large surpluses.

- They are not receiving the benefits that extra imports could bring them. For China, its citizens could enjoy a higher standard of living if imports were raised to match exports.
- If the surpluses that countries like China earn are poorly invested, giving low returns or even negative returns, then they will receive little if any benefit in the future. Running a large surplus, therefore, is not necessarily a good policy to pursue.
- It might cause other countries to impose protectionist measures.

The most important debtor country is the USA. It has run a persistent current account deficit since 1990. So long as countries are prepared to lend to or invest in the USA, there is no problem from a global perspective. In recent years, the USA has decreased its current account deficit as a percentage of world GDP. This is because the financial crisis of 2008 initially reduced US GDP and imports. The financial crisis deflated the US economy and its current account position improved. There is not necessarily a connection between current account deficits and the value of net assets or liabilities for a country. If US investors can earn a higher rate of return on their investments overseas than foreigners can on the US investments, then the net liabilities of the US will fall.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: ADVANCED ECONOMIES INCREASINGLY TO BLAME FOR GLOBAL IMBALANCES

2017 data showed that the United States had maintained its long-term position as the largest current account deficit country in the world. However, the scale of global imbalances has fallen significantly from the days before the 2008 Global Financial Crisis when a global saving glut – an excess of savings – caused largely by China and other emerging economies, led to a large inflow of capital and therefore growing current account deficits in places such as the US.

The IMF warned that the imbalance between global savings and spending risked fuelling new demands for protectionism. Although the US deficit has fallen from a pre-crisis peak of 6 per cent of GDP to 2.3 per cent in 2017, the Trump administration has made reducing the US deficit one of its economic priorities.

Research by the IMF showed that the use of tariffs and other trade barriers by the US would do little to address the current account deficit and would hurt both the US and the global economy. Rather than imposing protectionist measures, the IMF said the US should focus on reducing government debt and doing more to improve its competitiveness and productivity, through better education and training programmes.

1 Explain why high savings in China and other emerging economies would lead to a current account deficit in countries such as the US.
2 With countries such as the US experiencing a large current account deficit, why are global imbalances at risk of causing lower global growth?
3 Other than protectionism, explain the other measures, suggested by the IMF, which the US could implement to reduce its current account deficit.

## CHECKPOINT

1 What are the components which make up the current account?

2 If a country has a surplus on its current account, is it a net lender to the rest of the world or a net borrower from the rest of the world?

3 What are the three parts of the financial account?

4 Why is an artificially low exchange rate likely to cause a current account surplus?

5 Why is an economy with a low savings ratio more likely to have a current account deficit?

6 What effect is a reflationary policy likely to have on the current account balance?

7 State two measures an economy might use to reduce a current account deficit.

8 State two reasons running a persistent current account deficit may cause problems for an economy.

9 Why might running a persistent current account deficit be beneficial for an economy?

## SUBJECT VOCABULARY

**balance of payments** a record of all financial transactions made between residents of one country and the rest of the world

**capital account** shows the credit (money inflows) and debit items (money outflows) for non-produced, non-financial assets and capital transfers between residents and non-residents

**current account** where payments for the purchase and sale of goods and services are recorded, along with primary and secondary income flows

**current account deficit** when debits (– outflows of money) are greater than credits (+ inflows of money) on the current account

**current account surplus** when credits (+ inflows of money) are greater than debits (– outflows of money) on the current account

**devaluation of a currency** when a government or central bank officially fixes a new lower exchange rate for the currency in a fixed or pegged system of exchange rates

**expenditure reducing** in a balance of payments context, government policies to reduce the level of aggregate demand in order to reduce imports and boost exports

**expenditure switching** in a balance of payments context, government policies such as devaluation or protectionism designed to switch production currently being sold domestically to exports

**financial account** a record of almost all the flows of financial capital into and out of a country; it is split into three main parts

# THINKING LIKE AN ECONOMIST

## THE CONTRADICTION AT THE HEART OF TRUMPONOMICS

With the election of Donald Trump, the US government was keen to create jobs and boost economic growth by cutting taxes and encouraging business investment, along with achieving more balanced trade.

However, critics argue that not all of these three policies can be achieved. When America imports more than it sells abroad, foreigners accumulate dollars and invest in dollar-denominated assets. That is why the financial account is seen as the counterpart to the current account. A current account deficit for the US requires a net flow of finance from the rest of the world – foreigners buying American stocks and bonds have provided this. Over time, these assets generate returns to foreigners in the form of interest, dividends and capital gains (if the asset price rises over time).

America has run current account deficits, substantially driven by the balance of trade, almost every year since 1982. As a result, foreigners, by 2017, owned American assets worth $8.1 trillion

more than assets Americans own overseas. Foreign banks and governments want to keep a large stock of assets bought and sold in dollars because the dollar is the world's main reserve currency; this makes it fairly cheap to attract buyers for American assets.

Describing the trade deficit as cheap borrowing makes the problem with Trump's policies easier to spot. If America is to do without the foreign capital it currently imports, thus closing the trade deficit, American individuals, firms and government must save more.

However, the US government is causing extra spending by its deficit-financed tax cuts. History shows the likely effect on the trade deficit. In 1981 Ronald Reagan's tax cuts sent the federal government's deficit soaring from 2.5 per cent of GDP in 1981, to 4.9 per cent in 1986. The current account went into deficit almost simultaneously.

As the economy grew rapidly in the 1990s, the government budget pretty much balanced, yet the current account deficit grew. This was because the private sector, with growing confidence and booming stock markets, started spending more by running up debts.

Total net borrowing by the government, firms and consumers will determine the current account balance under Mr Trump. If the government increases the budget deficit or stimulates more private investment – such as the $1 trillion spending on infrastructure it hopes to create – the current account deficit will almost certainly rise.

# EXAM PRACTICE

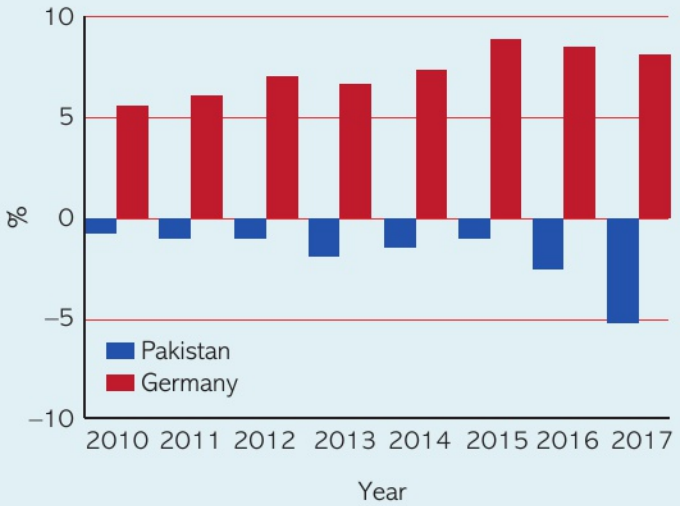
## THE BALANCE OF PAYMENTS

SKILLS REASONING, PROBLEM-SOLVING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

### EXTRACT A: GERMANY ON COURSE FOR WORLD'S LARGEST CURRENT ACCOUNT SURPLUS

In August 2018, Germany was on course to have the world's largest current account surplus for the third year in a row.

More than a decade ago, German employers and employees agreed to keep wage growth lower than productivity to keep export industries competitive.




▲ Figure 2 Current account balance (% of GDP) for Pakistan and Germany

Keeping wage growth low also means less domestic spending and fewer imports. Consumer spending, as a proportion of GDP, is lower in Germany (54%) than in countries such as the United States (69%).

Another reason why consumption is low is that Germany has an ageing population. Individuals are saving for their retirement. For years savings have been more than investment. The Eurozone's largest economy has also benefited from a relatively weak single currency, the euro.

The IMF and the European Commission have repeatedly criticised Germany over the scale of the current account surplus, saying the government

should spend more in areas such as infrastructure and education. Given high private sector savings, the government could spend more. For example, its school buildings and roads need urgent maintenance because of the squeeze on public investment required to meet its own financial rules.

## EXTRACT B: PAKISTAN WANTS TO CUT ITS CURRENT ACCOUNT DEFICIT

In September 2018, the government in Pakistan announced that it would raise import duties on 5000 different items, including powerful cars, more expensive mobile phones and jewellery. In an attempt to balance the government's budget, the government also announced several measures to cut government spending and increase taxes. The tax rate on annual income above Rs5m ($41,500) will go from 15 per cent to 25 per cent for salaried workers, and 30 per cent for those whose income does not come from a salary.

| | |
|---|---|
| Current account balance | –15,818 |
| Capital account balance | +408 |
| Balance on current, capital and financial account | –3,606 |
| Net omissions and errors | –426.9 |
| Drawing on reserves | ? |
| Balance | 0 |

▲ **Table 4 Extracts from Pakistan's balance of payments 2017 (millions of US dollars)**

Source IMF data

**1** In 2013, South Africa's current account balance, as a % of GDP, was –5.8 per cent. By 2017, this had fallen to –2.4 per cent. Which one of the following is likely to explain the change in South Africa's current account balance, as a % of GDP, since 2013? **(1 mark)**

(a) The value of the South African rand has appreciated over this period.
(b) South Africa's economic growth has been relatively low since 2013.
(c) Consumers have increasingly financed their consumption using debt.
(d) Portfolio investment inflows have increased since 2013.

**2** Read the extracts and answer the following.

(a) Using Table 4, calculate the balance on the financial account and the drawings on reserves on Pakistan's balance of payments for 2017. **(2 marks)**
(b) Explain what is meant by the phrase 'financial account' of the balance of payments (Table 4). **(4 marks)**
(c) With reference to Extract B and Figure 2, analyse the likely effect of a rise in import duties on Pakistan's current account deficit. **(6 marks)**
(d) With reference to the information provided, examine the likely effect of the proposed cut in government spending and rise in taxation on the current account balance for Pakistan. **(8 marks)**
(e) With reference to the information available, discuss the likely causes of the surplus on the current account in Germany. **(14 marks)**

**3** In 2017, Germany had the biggest current account surplus in the world (296.9 billion US dollars) and the United States had the biggest current account deficit in the world (449.1 billion US dollars). Evaluate the significance of global trade imbalances to countries of your choice. **(20 marks)**

### EXAM HINT

For Question 2e, there are plenty of likely causes mentioned in Extract A. These need to be analysed. Evaluate by considering which causes might be short term or long term. To what extent might changes in government policy influence the size of the surplus?

### EXAM HINT

For Question 3, consider the possible problems of current account deficits or current account surpluses for countries such as the United States and Germany. The imbalances might reflect other problems in the economy. Trade imbalances might also create problems. The rise in protectionism over recent years, as a response to global imbalances, and the impact this might have for economic growth in most countries is useful analysis. Evaluate by considering the circumstances when a current account deficit or surplus might not be a problem.

# 29 EXCHANGE RATE SYSTEMS

UNIT 4
4.3.3

## LEARNING OBJECTIVES

- Understand what an exchange rate is and what is meant by equilibrium exchange rate
- Understand the distinction between fixed, managed and floating exchange rates
- Understand government intervention in currency markets through:
  - foreign currency transactions
  - the use of interest rates
  - quantitative easing
- Understand the factors which influence floating exchange rates:
  - relative interest rates
  - relative inflation rates (purchasing power parity)
  - current account of the balance of payments
  - strength of the economy
  - capital flight
  - expectations and speculation
  - global factors, for example, falls in commodity prices

## GETTING STARTED

Find out the value of a currency of your choice against the US dollar, yesterday or today. What was it a year ago? List three factors which might have caused the exchange rate to change.

LINK Student Book 1, Chapter 11

## THE EXCHANGE RATE

Different countries use different types of money or currency. In Malaysia, goods and services are bought and sold with the Malaysian ringgit, in France with the euro, and in the USA with the dollar.

The rate at which one currency can be converted (i.e. bought or sold) into another currency is known as the **exchange rate** or bilateral exchange rate. For instance, an Indian company may wish to purchase US dollars. If it pays 80 million rupees to purchase $1 million, then the exchange rate is 80 rupees to the dollar.

Exchange rates are normally expressed in terms of the value of one single currency against another single currency – pounds for dollars for instance, or euros for yen. However, it is possible to calculate the exchange rate of one currency in terms of a group or basket of currencies. The **effective exchange rate** or **trade weighted exchange rate** or exchange rate index are calculations of the average movement of the exchange rate, usually on the basis of weightings determined by the value of trade undertaken with a country's main trading partners.

To illustrate how the trade weighted index is calculated, assume that China trades only with the USA and France.

70 per cent of China's trade is with the USA and 30 per cent is with France. The value of the renminbi falls by 10 per cent against the dollar and by 20 per cent against the euro (which, incidentally, means the euro has gone up in value against the US dollar). The trade weighted index will now have changed. The fall in the value of the renminbi against the dollar contributes a 7 per cent fall in the exchange rate (10 per cent × 0.7) while the fall in the value of the renminbi against the euro contributes a 6 per cent fall (20 per cent × 0.3). The average fall is the sum of these two components (i.e. 13 per cent). If the trade weighted index started off at 100, its new value will be 87.

## EQUILIBRIUM EXCHANGE RATES

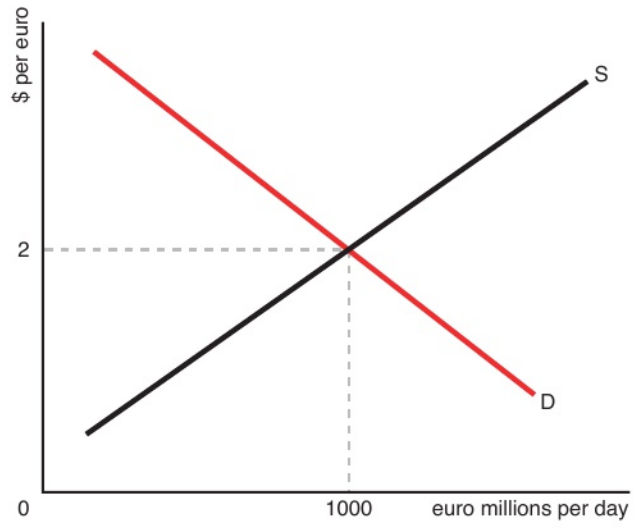
Currency is bought and sold on the **foreign exchange markets**. Governments may buy and sell currencies in order to influence the price of a currency. Here we will assume that governments do not intervene and that currencies find their own price levels through the forces of demand and supply. This is what happens under a pure floating exchange rate system, where exchange rates are solely determined by the free market forces of demand and supply. There are then three main reasons why foreign exchange is bought and sold.

- International trade in goods and services needs to be financed. Exports create a demand for currency while imports create a supply of currency.
- Long-term capital movements occur. Inward investment to an economy creates a demand for its currency. Outward investment from an economy creates a supply.
- There is an enormous amount of speculation in the foreign exchange markets.

The equilibrium exchange rate is established where the demand for the currency is equal to its supply. Figure 1 shows the demand and supply of euros priced in dollars. The market is in equilibrium at an exchange rate of $2 = 1 euro. Buying and selling is equal to 1000 million euros each day.

**FIGURE 1**

**Floating exchange rate systems**
In a free exchange rate market, the price of a currency is determined by demand and supply. Equilibrium price is $2 to the euro while equilibrium quantity demanded and supplied is 1000 million euros per day.




The demand curve is assumed to be downward sloping. If the price of the euro falls against the dollar, then the price of Eurozone goods will fall in dollar terms. For instance, if the exchange rate falls from $2 = €1 to $1 = €1, then a Eurozone good costing €1000 will fall in price for Americans from $2000 to $1000. Americans should therefore buy more Eurozone goods and demand more euros to pay for them. So a fall in the price of the euro should lead to an increase in quantity demanded of euros, causing the downward sloping demand curve. Similarly the supply curve is upward sloping because a fall in the value of the euro will increase the price of foreign imports for the Eurozone, leading them to reduce their purchases of foreign goods and therefore of foreign exchange.

All other things being equal, a fall in the value of the euro from, say, $2 to $1 is likely to make the euro look cheap and this may attract speculative buying of the euro and discourage speculative selling. This would then produce downward sloping demand curves and upward sloping supply curves for the euro.

## THE DISTINCTION BETWEEN FIXED, MANAGED AND FLOATING EXCHANGE RATES

### FIXED EXCHANGE RATE SYSTEMS

A **fixed exchange rate system** is one where a currency has a fixed value against another currency or commodity.

### MANAGED EXCHANGE RATE SYSTEMS

Most countries currently use some form of **managed exchange rate system**, sometimes called a hybrid or intermediate system. In a managed exchange rate system, free market forces of demand and supply help determine the exchange rate. However, government also plays some part in determining the exchange rate of the currency.

### FLOATING EXCHANGE RATE SYSTEM

An **exchange rate system** is any system that determines the conditions under which one currency can be exchanged for another. In a pure **floating** or **free exchange rate system**, exchange rates are solely determined by the free market forces of demand and supply. There are no government controls over how much foreign currency can be bought and sold. Nor does the government intervene in the market, buying and selling currency, in an attempt to influence the exchange rate.

## GOVERNMENT INTERVENTION IN CURRENCY MARKETS

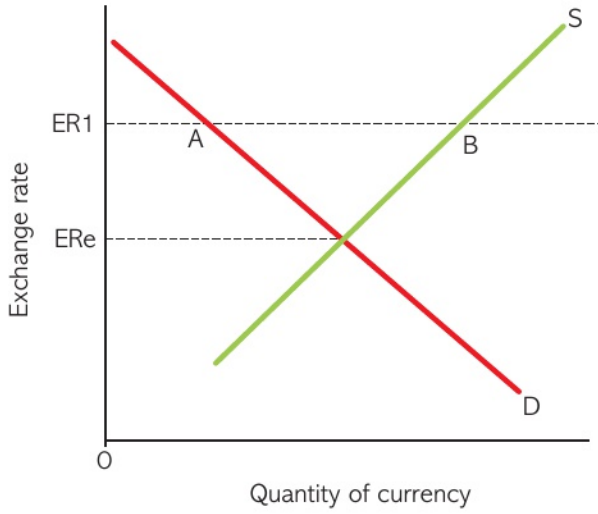
Most countries use some form of managed exchange rate system. Supply and demand can determine the exchange rate. However, governments also play some part in determining the value of the currency on foreign exchange markets. The government can do this either by intervening directly, buying and selling currency using the **gold and foreign currency reserves** held by its central bank. Or it can intervene indirectly, for example by raising or lowering interest rates which then influence the free market demand for and supply of the currency. Quantitative easing will also have an indirect impact on the exchange rate. There are many forms of managed exchange rate system some of which are, confusingly but not necessarily incorrectly, sometimes labelled as fixed exchange rate systems. These are called **adjustable peg systems** and **crawling peg systems**.

## FOREIGN CURRENCY TRANSACTIONS

One way for a government to intervene in the market, through the intervention of its central bank, is by buying or selling currency. If the central bank wants to raise the value of the currency, it will buy its own currency in exchange for foreign currencies. For example, in Figure 2, the equilibrium value of the euro is ERe. If the European central bank wants to raise the value of the euro to ER1, then it will need to intervene. At ER1 there is an excess supply of euros on the foreign exchange market shown by AB. This excess supply causes the value of the euro to fall to its equilibrium value ERe. To maintain the value of the euro at ER1, the central bank needs to buy up the excess supply of euros AB using its foreign currency reserves.

**FIGURE 2**

**Buying currency to raise the value of a currency**
Raising the value of a currency from ERe to ER1 can be achieved by the central bank buying the excess supply of the currency AB on foreign exchange markets. This means its foreign currency reserves will fall.




Buying its own currency is only possible because central banks hold gold and foreign currency reserves. This is monies owned by the central bank to be used to intervene in the markets. Central banks do not own limitless reserves of gold and foreign currency. Today, these reserves account for only a small fraction of the total annual trades of a currency on the foreign exchanges. So central banks find it difficult, if not impossible, to maintain a significantly higher exchange rate than the markets predict except in the short term. In 1992, for example, the Bank of England was defending a high value of the pound against what would become the euro. Foreign exchange speculators bet against the pound, selling pounds, some of which the Bank of England had to buy to maintain the high exchange rate. Selling became so great that on 'Black Wednesday', 16 September 1992, the government and the Bank of England admitted defeat in their defence of the pound and stopped buying pounds. The value of the pound against other currencies fell by over 15 per cent.

If the government wants to lower the exchange rate below the equilibrium value, its central bank will sell its own currency on the foreign exchange market. This is because an exchange rate below ERe means there will be excess demand for the currency on foreign exchange markets. This excess demand will, under free market forces, cause the value of the currency to rise to the equilibrium value ERe. Therefore the central bank needs to remove this excess demand by supplying this excess of currency. In other words, it will sell its own currency on the foreign exchange market. As a result, its reserves of foreign currency will rise.

Adjustable peg systems, crawling peg systems and **managed float** or **dirty float** are examples of managed exchange rate systems where central banks intervene, by buying and selling currency, to maintain the price of the currency at a particular level.

## ADJUSTABLE PEG SYSTEMS

An adjustable peg system is an exchange rate system where, in the short term, currencies are fixed or pegged against each other and do not change in value, while in the longer term the value of a currency can be changed if economic circumstances change. Sometimes, adjustable peg systems are classified as fixed exchange rate systems because the value of the currency is fixed at least in the short term. Between the end of the Second World War and the early 1970s, exchange rates were determined by an adjustable peg system called the **Bretton Woods system**. Under the system, each country fixed its exchange rate against other currencies. This was known as the par value for the currency. The exchange rate was allowed to move on a day-to-day basis within a very narrow band. If the exchange rate threatened to go below this band, the central bank of a country would intervene by buying up its currency. This would increase the demand for the currency and so raise its price. If it threatened to go above the band, then the central bank would sell its currency, increasing supply and so lowering the price.

This mechanism is shown in Figure 3. The central bank fixes the par value of the currency at OG, but it is allowed to move within a narrow band, FJ. If demand and supply are D and S, the equilibrium exchange rate, OH, is within the band. The central bank does not have to intervene. But if the supply curve of the

currency shifts from S to $S_1$, the equilibrium exchange rate, OE, is below the bottom of the band. To bring the exchange rate back to OF, the minimum price of the currency, the central bank has to buy BC of the currency. BC is the difference between free market supply of OC and free market demand of OB.

## CRAWLING PEG SYSTEMS

A crawling peg system is a form of adjustable peg system. A country fixes its currency against another currency or currencies within a band. However, there is a mechanism built into the system which allows the band to rise and fall regularly over time. For example, the band may be moved every three months. The central value could then be based on the average value of the currency in the previous three months.

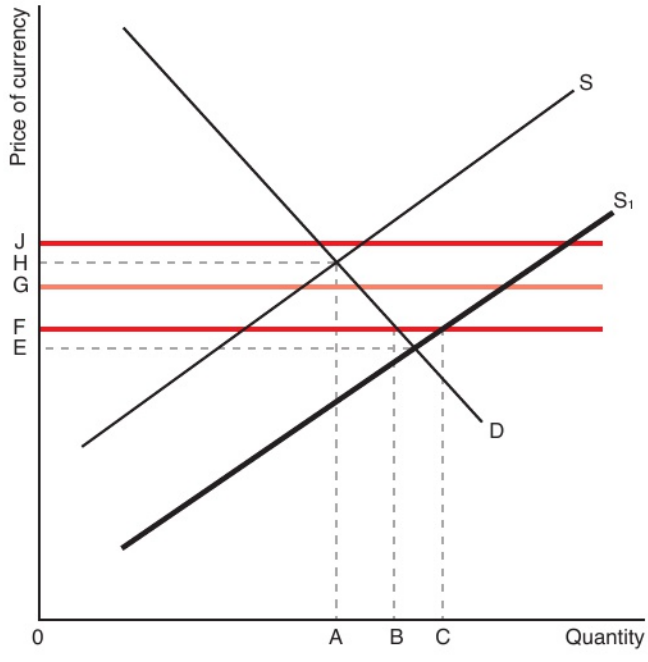
## MANAGED OR DIRTY FLOAT

A managed or dirty float occurs when exchange rates are freely floating but governments and their central banks occasionally intervene to change the value of the currency. Central banks may intervene on a day-to-day basis to reduce volatility of the currency. This means they want to smooth out sudden sharp rises and falls in the currency that can disrupt foreign trade. They may also intervene to change the value of the currency because they feel this is in the national economic interest. For example, a central bank may sell its currency to reduce the exchange rate because it wants to help exporters and reduce imports. Managed floats are the single most important type of exchange rate system used today. The value of the US dollar, the euro, the British pound (£ sterling) and the Japanese yen are all determined under a managed float

**FIGURE 3**

**Central bank intervention in the foreign currency markets**

If the central bank wishes to maintain a minimum price of OF for its currency, but the supply curve is $S_1$ and the demand curve is D, then it has to buy BC currency.




## ACTIVITY 1

SKILLS PROBLEM-SOLVING, INTERPRETATION, ANALYSIS

### CASE STUDY: NIGERIA'S NAIRA FALLS 40 PER CENT ON FLOAT

In June 2016, the Central Bank of Nigeria gave in to market pressure to end the naira's 16-month-old currency peg. The currency had been pegged at around 197 naira per dollar. The naira fell more than 40 per cent against the dollar on the first day of the new currency system, but then hardly moved for three weeks. This led analysts to assume that the Central Bank of Nigeria was still intervening and going against their promise of a free float. During the first three weeks of the new currency system, when the naira held steady, the central bank was selling $35 million to $60 million worth of dollars a day, according to analysts at JPMorgan. However, after a further fall in the value of the naira in July, when the value of the naira fell to a low of 308.5 naira per dollar, analysts at JPMorgan said the central bank had now 'stepped away from the foreign exchange market for the first time since adopting the floating exchange rate model'.

1 What was the free market price of the naira in July? How does this compare with the pegged value of 197 naira per dollar?
2 What effect would the selling of millions of dollars a day by the central bank of Nigeria have on the value of the naira? Use a demand and supply diagram to illustrate your answer.

## THE USE OF INTEREST RATES

Under a managed float, which is an example of a managed exchange rate system, the central bank can also affect the exchange rate through a change in interest rates. If it raises interest rates, this makes financial savings in the country more attractive. For example, if interest rates rise in the United States, foreigners will have more incentive to save their money in US bank accounts. This means the demand for US dollars will rise on the foreign exchange market. The demand curve for US dollars will shift to the right. As a result, the equilibrium exchange rate will rise. Also, existing holders of US savings accounts will be more reluctant to move their savings abroad, reducing the supply of dollars onto the market. Greater demand for dollars and a reduced supply will then raise the value of the dollar.

There is a second way in which interest rates affect the value of a currency. For the US, a rise in interest rates will reduce both consumption and investment, leading to lower GDP. Lower consumption and investment will lead to lower imports to the US. Imports are paid for with dollars which are then exchanged into a foreign currency. So fewer imports mean a lower supply of dollars onto foreign exchange markets. This then leads to a rise in the value of the dollar.

In a managed exchange rate system, the government might use a mixture of methods to intervene. Trying to raise the value of a currency by buying the excess supply of the currency, using foreign currency reserves, is likely to only be a short-term solution since foreign exchange reserves will eventually run out. However, if the central bank increases interest rates too, then the rise in demand for the currency will reduce the excess supply of the currency which the central bank must buy. This might then be sustainable over the medium term.

## QUANTITATIVE EASING

Under a managed float, quantitative easing is also a way for the government to change the value of their currency. Quantitative easing, discussed in Student Book 1, is a monetary policy instrument where the central bank buys financial assets in exchange for money in order to increase borrowing and lending in the economy. Quantitative easing has the effect of lowering the interest rates for any type of financial asset which the central bank buys as part of its policy of quantitative easing. It also indirectly lowers other interest rates. Commercial banks can offer lower interest deals to their borrowing customers because the central bank has provided them with more cash to lend out. So quantitative easing will cause the value of a currency to fall. For example, quantitative easing by the European Central Bank would reduce interest rates in the Eurozone. International investors will have less incentive to buy Eurozone assets. So demand for the euro will fall on foreign exchange markets. International investors who currently hold Eurozone assets will transfer their money out of Eurozone assets and into assets in countries outside the Eurozone. So the supply of euros will increase as sellers wish to purchase other foreign currency. In July 2017, the US indicated that it was ready to reverse its quantitative easing programme. Reversing quantitative easing would put upward pressure on interest rates. This would increase demand for the dollar on foreign exchange markets. So the equilibrium exchange rate would increase.

## CURRENCY CONTROLS

Central banks can also alter the supply and demand of a currency through currency or exchange controls. These are limits on the amount of foreign currency that can be bought. For example, under very strict currency controls, the only place where a currency could be bought and sold would be the central bank. A firm wanting to import cars would have to buy the foreign currency from the central bank. A firm exporting fabrics would have to sell any foreign currency it received to the central bank. By limiting the amounts of currency available, the central bank is able to fix the value of the currency. Often, a central bank using currency controls will have several different exchange rates. For instance, it might have a low exchange rate for imports of consumer goods but a higher exchange rate for imports of investment goods. This reduces the price of imported investment goods and so encourages investment at the expense of consumption. Currency controls inevitably lead to the development of black markets in a currency. They are also open to corruption because those getting hold of scarce currency at official rates can usually sell the currency at a higher black market rate, making a profit.

## BORROWING FROM INTERNATIONAL INSTITUTIONS SUCH AS THE IMF

A last resort for a country wanting to maintain a high exchange rate would be borrowing from an institution such as the International Monetary Fund (IMF). The borrowed money can then be used to buy up the currency and so raise its price. It is a last resort because borrowing like this is taken to be a sign of economic failure. Lenders such as the IMF will also insist on economic reforms which are likely to be highly unpopular with voters in the country.

## FACTORS INFLUENCING FLOATING EXCHANGE RATES

The exchange rate will change if there is a change either in demand for or in supply of a currency. Figure 4 shows the market for Turkish lira, the currency of Turkey. An initial equilibrium exchange rate of OB, with OQ being bought and sold, exists. Factors which influence the value of the Turkish lira, under a system of floating exchange rates, include the following:

### RELATIVE INTEREST RATES

If the rate of interest in the money markets of Turkey increases, US savers (or indeed savers throughout the world) will switch funds into Turkey. This is likely to be short-term money or hot money which flows from financial centre to financial centre attracted by the highest rate of return. An increase in these flows will increase the demand for Turkish lira, shifting the demand curve from $D_1$ to $D_2$, and increasing the value of the Turkish lira from OB to OC.

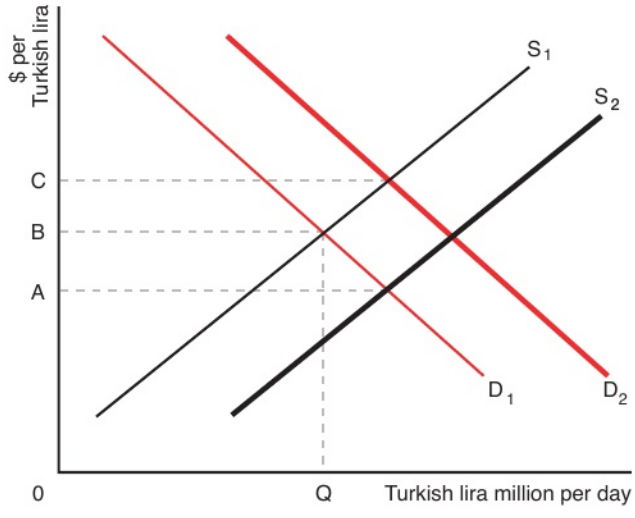
### RELATIVE INFLATION RATES (PURCHASING POWER PARITY THEORY)

Different countries have different inflation rates. The cost of living may also be different. The **nominal exchange rate**, which is the current market exchange rate, takes no account of this. However, **real exchange rates** can be constructed using a comparison of the cost of living in one country with another country. This is done by measuring purchasing power parities (PPPs). For example, if it costs 100 Turkish lira to buy a bundle of goods in Turkey and $16 to buy the same bundle of goods in the USA, then the real exchange rate is 1 Turkish lira:0.16 US dollars.

**FIGURE 4**

**Changes in exchange rates**

The equilibrium value of the Turkish lira will change if there is a change in either the demand for or supply of Turkish lira (or both).




LINK Student Book 1, Chapter 22

At any point in time, the nominal exchange rate is unlikely to be the same as the real exchange rate. This is because nominal exchange rates reflect short-term day-to-day speculative activity on the foreign exchange rate markets. In contrast, the **purchasing power parity theory of exchange rates** states that exchange rates in the long-term change in line with inflation rates between economies. To understand why exchange rates might change in line with inflation rates, assume that the balance of payments in Turkey is in equilibrium, with exports equal to imports and financial account outflows equal to financial account inflows, but it is suffering from a 5 per cent inflation rate (i.e. the prices of goods are rising on average by 5 per cent per year). Assume also that there is no inflation in the rest of the world. At the end of one year, the average price of Turkish exports will be 5 per cent higher than at the beginning. On the other hand, imports will be 5 per cent cheaper than domestically produced goods. At the end of the second year, the gap will be even wider.

Starting from a PPP rate of 1 Turkish lira = 0.16 US dollars, this change in relative prices between Turkey and the rest of the world will affect the volume of Turkish exports and imports. Turkish exports will become steadily less price competitive on world markets. Hence sales of Turkish exports will fall. Imports into Turkey, on the other hand, will become steadily more price competitive and their sales in Turkey will rise. The balance of payments on the current account will move into the red.

A fall in the volume of Turkish exports is likely to lead to a fall in the value of exports (this assumes that exports are price elastic and therefore the demand for Turkish lira will fall). A rise in the value of imports will result in a rise in the supply of Turkish lira. A fall in demand and a rise in supply of Turkish lira will result in a fall in its value.

So the purchasing power parity theory argues that in the long run exchange rates will change in line with changes in prices between countries. For instance, if the annual inflation rate in Turkey is 4 per cent higher than that of the USA over a period of time, then the Turkish lira will fall in value at an average annual rate of 4 per cent against the dollar over the period. In the

long run, exchange rates will be in equilibrium when purchasing power parities are equal between countries. This means that the prices of typical bundles of traded goods and services are equal.

The causes of inflation are complex. However, one reason why economies can become less price competitive over time is labour productivity (i.e. output per worker). If output per worker increases at a rate of 2 per cent per annum in Turkey and 5 per cent per annum in Japan, then it is likely that Turkey will become less competitive internationally than Japan over time. Wage costs are the single most important element on average in the final value of a product. Hence changes in labour productivity are an important component in changes in final costs.

## CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

Any change in inflows or outflows on the balance of payments will have an impact on the exchange rate. A shift in either the demand curve or supply curve will change the value of the currency on foreign exchange markets. One of the main components on the current account is the balance of trade in goods and services. This records exports and imports of goods and services.

**A rise in exports from Turkey** If Turkey exports to the USA increase, American firms will need to buy more Turkish lira than before to pay for them. Hence the increase in the value of Turkey exports will increase the demand for Turkish lira, shifting the demand curve from $D_1$ to $D_2$ (This assumes that the rise in demand for Turkey exports is caused by factors other than the value of the Turkish lira changing.) The exchange rate will therefore rise from OB to OC.

**A rise in Turkey imports** If imports from the USA increase, Turkish firms will need to buy more dollars than before to pay for them. They will buy these dollars with Turkish lira. Hence an increase in the value of Turkey imports will increase the supply of Turkish lira. The supply curve will shift to the right from $S_1$ to $S_2$. The equilibrium value of the Turkish lira will fall from OB to OA.

Similarly a rise in credits (money inflows) on any component of the current account will put upward pressure on the exchange rate. A rise in debits (money outflows) on any component will put downward pressure on the exchange rate.

## STRENGTH OF THE ECONOMY

The strength of the economy can also influence the exchange rate. A slowdown in economic growth is likely to reduce the exchange rate. For example, a slowdown in the US economy might mean foreigners choose to build up their portfolio investments in companies in other countries where they expect share prices to rise more quickly.

If an economy is strong this suggests there is economic and political stability. This is likely to attract foreign direct investment. If there is an inflow of funds for long-term investment in Turkey, then the demand for Turkish lira will rise. This is shown by the shift in

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, COMMUNICATION

### CASE STUDY: THE VALUE OF THE RENMINBI

In 2015, when the renminbi lost value, a sense of panic followed, causing Chinese companies and individuals to hurriedly buy dollars. The fear of unwelcome capital outflows meant that the People's Bank of China (PBoC) had to pay careful attention to stabilising the currency. During a period of renminbi **depreciation** in 2015–2016, policy makers spent roughly $1 trillion in foreign exchange over roughly 18 months to stop the decline.

By 7 August 2018, the Chinese currency had lost more value in the previous two months than during any eight-week period since 1994. However, this was not likely to cause unwelcome capital outflows. Chinese authorities had put in place a network of restrictions on capital outflows in late 2016 and early 2017. This gave the PBoC much more control over its foreign exchange market so it could limit the amount of dollars that Chinese banks sold to those who wanted them.

China's current account surplus, as a percentage of GDP, is falling. Earlier in 2018, China even suffered its first current account deficit since 2001. Mr Yi, the governor of the PBoC said in 2018 that China 'must persist with' its policy of letting supply and demand serve as the 'foundation' of the exchange rate. So a weaker renminbi may be expected.

**1** Outline the factors which have influenced the value of the renminbi since 2015.

the demand curve from $D_1$ to $D_2$, raising the value of the Turkish lira from 0B to 0C. Any uncertainty about the future performance of an economy is likely to reduce the exchange rate. For example, when the UK voted to leave the EU in June 2016, the value of the pound fell.

## CAPITAL FLIGHT

Capital flight is a rapid movement of large sums of money out of a country, usually motivated by substantial economic and political uncertainty. It can also be triggered by speculation that the exchange rate, in a fixed or managed exchange rate system, is about to be **devalued**. This means there is speculation that the value of the currency will fall. For example, in 2015 it was reported that China was experiencing massive capital outflows. There was rising speculation that the value of the renminbi was set to fall against the US dollar, causing speculators to buy dollars rather than holding onto their renminbi. The Chinese were also starting to doubt China's ability to achieve high economic growth. Many Chinese were moving money abroad to invest in property in countries where they thought they could make higher returns. Capital flight will put downward pressure on the value of a currency. If panic sets in, there is often a downward spiral that affects the value of the currency. A country may try to stop this by imposing capital controls.

## EXPECTATIONS AND SPECULATION

Speculation is an important cause today of the minute-by-minute changes in the value of a currency. For example, if speculators believe that the value of the Turkish lira is going to fall against the dollar, they will sell Turkish lira and buy dollars. An increase in the supply of Turkish lira on the market, shown by the shift in the supply curve from $S_1$ to $S_2$, will lead to a fall in the price of the Turkish lira from 0B to 0A.

Evidence suggests that speculative deals form the majority of trading on a daily basis. Thus, in the short term, the value of a currency is dominated by speculative activity in the currency. However, there is evidence to suggest that in the longer term, the value of a currency is determined by economic fundamentals – by exports, imports and long-term capital movements.

## GLOBAL FACTORS

Many economies rely on the export of commodities. The prices of commodities vary and are determined on global markets. For an economy that relies on these exports, a fall in prices is likely to reduce its export values. This is because the price elasticity of demand tends to be inelastic. For example, copper is one of Chile's main exports. If the price of copper falls on global markets, then the value of exports for Chile is likely to fall. This will reduce demand for the Chilean peso, causing a fall in the exchange rate for Chile. If commodities make up a large proportion of imports for an economy, a fall in commodity prices will reduce import values. This will push up the value of this economy's currency because a smaller supply of the currency will be needed on foreign exchange markets.

## CHECKPOINT

1. What is the distinction between a fixed exchange rate system and a managed exchange rate system?
2. What is meant by the term 'equilibrium exchange rate'?
3. If a central bank wants to increase the value of its currency so it is above the equilibrium value, how might it do that using its foreign currency reserves?
4. What effect would a fall in interest rates have on the equilibrium exchange rate?
5. What effect will the 'winding down' of quantitative easing, by the central bank of the United States, have on the value of the dollar?
6. What is the purchasing power parity theory?
7. Why is a widening current account deficit likely to cause the price of a currency to fall?
8. What is capital flight?

## SUBJECT VOCABULARY

**adjustable peg system** an exchange rate system where currencies are fixed in value in the short term but can be devalued or revalued in the longer term

**Bretton Woods system** an adjustable peg exchange rate system which was used in the post-Second World War period until its collapse in the early 1970s

**crawling peg system** an adjustable peg system of exchange rates where there is an inbuilt mechanism for regular changes in the central value of the currency

**depreciation of a currency** when the value of a currency falls because of free market forces or with a managed float, because of government intervention

**effective exchange rate or trade weighted exchange rate index** measure of the exchange rate of a country's currency, usually against a basket of currencies of a country's major trading partners

**exchange rate** the value of one currency when traded for another currency

**exchange rate systems** systems which determine the conditions under which one currency can be exchanged for another

**fixed exchange rate system** a rate of exchange between at least two currencies which is constant over a period of time

**floating or free exchange rate system** where the value of a currency is determined by free market forces and where the value of a currency changes from day to day

**foreign exchange markets** trading arrangements where currencies are bought and sold for each other

**gold and foreign currency reserves** gold and foreign currency owned by the central bank of a country and used mainly to change the foreign exchange value of the domestic currency by buying and selling currency on foreign exchanges

**managed exchange rate system or hybrid or intermediate system** an exchange rate system where free markets determine the value of a currency but where central banks intervene from time to time to change the value of their currency

**managed or dirty float** where the exchange rate is determined by free market forces but governments intervene from time to time to alter the free market price of a currency

**nominal exchange rate** the rate at which one currency is bought and sold on the foreign exchange markets for another currency

**purchasing power parity theory of exchange rates** the hypothesis that long run changes in exchange rates are caused by differences in inflation rates between countries

**real exchange rate** the ratio of the cost of a typical bundle of goods in one country compared to its cost in another country in the currencies of each country

## THINKING LIKE AN ECONOMIST

### CURRENCY CRISES IN EMERGING MARKETS

Higher interest rates in the United States and a stronger dollar have long been triggers for money moving quickly out of emerging markets. The theory is that when the dollar strengthens, the volume of debt that emerging economies have sold in dollars, rather than their local currency, becomes too expensive and harder to pay back. This makes investors fearful.

Since 2016, US interest rates have risen from 0.25 per cent to 2 per cent, with six rises in total. This has caused big currency sell offs by emerging economies, as money is encouraged back to the US where it is safer and where there are higher returns. The value of most emerging currencies has fallen, particularly in countries with large current account deficits and high external debt, such as South Africa, Turkey, Brazil and Indonesia.

By September 2018, the Argentinian peso was down 50 per cent against the dollar, making it the world's worst performing currency in the world over the period. The Turkish lira was a close second, falling

almost 40 per cent, while the Brazilian real, South African rand and Russian rouble have suffered too.

In Argentina, the problems began in January 2018 when the central bank announced it was loosening its inflation target from 12 per cent to 15 per cent. The government was concerned that the higher interest rates needed to reduce inflation would impact negatively on economic growth. However, investors began to question the central bank's commitment to reduce inflation. This would worry investors, because inflation reduces the value of a currency. A high current account deficit and a large amount of foreign debt also suggested the peso value would fall so, when US interest rates rose, investors started to withdraw their money quickly. In September 2018, the central bank was forced to increase interest rates to a massive 60 per cent to try to prevent a further fall in the value of the peso.

# EXAM PRACTICE

## INDIA'S RUPEE AND TURKEY'S LIRA TAKE A TUMBLE

**SKILLS** REASONING, PROBLEM-SOLVING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

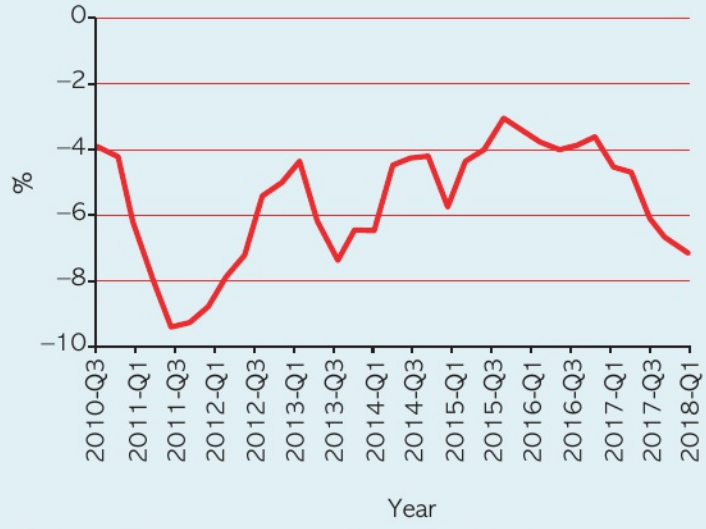
### EXTRACT A: INDIA'S RUPEE HITS ALL TIME LOW ON CURRENT ACCOUNT DEFICIT FEARS

In August 2018 India's rupee fell to an all-time low of Rs70 to the dollar.

Investors are concerned about India's widening trade and current account deficit. In June, India's trade deficit widened to $16.6 billion, the highest level in five years, fuelled by high oil prices.

According to fund data provider EPFR, US interest rates and the stronger dollar have caused investors to reduce investments in riskier emerging market equity funds in the ten weeks to the end of July.

India's foreign currency reserves have fallen from $426 billion in mid-April to $399 billion by mid-September, as the central bank has tried to support the rupee.




▲ **Figure 5 Tukey: current account balance (% of GDP)**

### EXTRACT B: THE TURKISH LIRA

By August 2018, the Turkish lira was one of the world's worst performing currencies, losing more than 40 per cent against the dollar over the year to date. The Turkish lira had hit an all-time low.

Inflation in Turkey is running at more than 15 per cent and its current account deficit is high, at present

above 5 per cent of GDP. Investors in Turkey are alarmed by the central bank's refusal, so far, to raise interest rates. But William Jackson, an emerging market economist at Capital Economics, questioned whether such an increase would be effective: 'We had one in May and a few weeks later we were in the same situation'.

Another factor explaining the fall in the exchange rate is the reducing or reversal of quantitative easing programmes in the US and Eurozone. In the past, Turkey had gained from an inflow of short-term foreign funds, partly due to loose monetary policy in the US and Europe, which had encouraged investors to seek higher returns in Turkey and other emerging markets.

Q

**1** Which one of the following is likely to cause the value of the US dollar (the exchange rate) to rise? **(1 mark)**

(a) The Federal Reserve Bank announces more quantitative easing.
(b) Speculators believe interest rates are likely to rise in the Eurozone.
(c) The Federal Reserve Bank increases interest rates.
(d) The US current account deficit is expected to widen.

**2** Read the extracts provided and answer the following.

(a) Explain what is meant by the term 'exchange rate'. **(4 marks)**
(b) With reference to the information available, examine the policies a government can use to stabilise the value of a currency. **(8 marks)**
(c) With reference to the information available, discuss the factors which have caused the value of the Indian rupee and Turkish lira to fall. **(14 marks)**

**3** By August 2018, the Argentine peso had lost roughly half its value since the beginning of the year. Evaluate factors which influence floating exchange rates. **(20 marks)**

**EXAM HINT**

For Question 2c, use the extracts to find a range of factors. Make sure your analysis clearly explains how demand and/or supply of the currency is affected. Evaluation will include which factors are likely to be more significant. For example, if Turkey's lira and the Indian rupee have fallen to an all-time low, is the current account deficit in Turkey and India larger than in previous periods?

**EXAM HINT**

For Question 3, make reference to real world examples in your essay. For each factor, it is important to discuss why the equilibrium exchange rate changes.

# 30 THE IMPACT OF CHANGES IN EXCHANGE RATES

UNIT 4
4.3.3

## LEARNING OBJECTIVES

- Understand the distinction between revaluation and appreciation of a currency
- Understand the distinction between devaluation and depreciation of a currency
- Understand the impact of changes in exchange rates.
- Understand competitive depreciations/devaluations and their consequences

## GETTING STARTED

What is the currency used in the country in which you live? Assume the exchange rate of this currency against other currencies falls by 15 per cent. Give five different ways in which you think this might affect you. Think of foreign holidays, for example, or the price of clothes or food.

## REVALUATION/APPRECIATION AND DEVALUATION/DEPRECIATION

If a country has fixed its currency against another currency, as with an adjustable peg system, it can choose to devalue or revalue its currency.

A **devaluation** means that the value of the currency officially falls. For example, Kazakhstan's central bank devalued the tenge, in February 2014, by almost a fifth. The trading band for the currency was moved from 145–155 tenge to the US dollar, a range used since 2009, to a new range of 182–188 tenge to the US dollar.

A **revaluation** means that the value of the currency officially rises. Devaluation and revaluation suggest that the government is committed to maintaining the new official rate of exchange, for instance, through buying and selling in the market or through interest rate policy. Devaluation is different from depreciation.

**Depreciation** of a currency is when it falls in value because of free market forces or intervention by the central bank. **Appreciation** of a currency is when it rises in value because of buying and selling in the market. A devaluation or revaluation can only occur when a country has pegged its currency to another currency or basket of currencies.

## THE IMPACT OF CHANGES IN EXCHANGE RATES

Changes in the value of a currency will affect the current account of the balance of payments, the rate of inflation, economic growth, employment and unemployment, foreign direct investment and the capital and financial accounts of the balance of payments.

### THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

Changes in exchange rates affect the economy mainly through their impact on exports and imports. In most cases, a fall in the exchange rate (a depreciation in a floating exchange rate system or a devaluation in a fixed exchange rate system) will lead to:

- a rise in the value of exports
- a fall in the value of imports
- an improvement in the current account on the balance of payments.

A rise in the exchange rate, either an appreciation or a revaluation, will have the opposite effects. However, the change in the current account is dependent on the relative elasticities of exports and imports and whether the short term or the long term is being considered.

These effects will now be considered in more detail using the example of a fall in the value of the euro, the single currency used by countries who are members of the Euro Area, also known as the Eurozone. The opposite effects will occur if there is a rise in the value of the currency. The example considers trade between the US and the Euro Area.

**The effects of a fall in the value of the exchange rate** Assume that the euro falls in value against other currencies by 10 per cent. The price of imports will therefore rise in euros. With an exchange rate of $2 = 1 euro, a US car sold to Eurozone importers for $20,000 would have cost 10,000 in

euros. With a 10 per cent devaluation of the euro, the new exchange rate will be $1.8 = 1 euro. So the cost of a $20,000 US car will be 11,111 euros ($20,000 ÷ 1.8). At the new price, demand is likely to fall. The effect on the total value of imports will depend upon the elasticity of demand for US cars. If demand is elastic, the percentage rise in the price of US cars will be more than offset by a percentage fall in the demand for cars. Hence the total euro value of imported US cars will fall. (This is an application of the relationship between elasticity and revenue.) If demand is price inelastic, a rise in price will lead to a rise in expenditure on US cars and hence a rise in the euro value of US car imports.

In summary, a fall in the value of the euro will:

- leave the US dollar price unchanged but increase the euro price of imported goods
- result in a fall in import volumes
- lead to a fall in the total euro value of imports assuming that domestic demand for imports is elastic; if demand is inelastic, there will be a rise in the euro value of imports.

A fall in the value of the euro should have no effect on the euro price of exports. A 10,000 euro car exported to the USA will still be 10,000 euros after the fall. But the price will have fallen in US dollars. If the value of the euro falls from $2 = 1 euro to $1.8 = 1 euro, the 10,000 euro car will fall in price in the USA from $20,000 to $18,000. This should lead to a rise in demand for cars produced in the Eurozone.

A fall in the value of the euro will therefore:

- leave the euro price of exports unchanged but reduce the price in foreign currency terms
- lead to a rise in export volumes
- increase the total euro value of exports.

**Devaluation/depreciation and elasticity and the Marshall–Lerner condition** Overall, a fall in the value of the euro will increase the euro value of exports, but may or may not lead to a fall in the value of imports depending upon the elasticity of demand for imports. It is likely that, even if import values increase, export values will increase even more. Hence a fall in the value of the euro will result in an improved current account position for the Euro area's trade with the US.

The **Marshall–Lerner condition** states that, given very specific conditions, a fall in the value of a currency will result in an improvement on the current account if the combined price elasticities of demand for exports and imports are greater than 1. If the combined elasticities for exports and imports are less than 1, then the correct policy response to a current account deficit should be a currency revaluation.

**Devaluation/depreciation and pricing strategies** So far it has been assumed that exporters from the Eurozone will choose to keep the euro price of

## ACTIVITY 1

SKILLS PROBLEM-SOLVING

### CASE STUDY: THE PRICE ELASTICITY OF DEMAND FOR EXPORTS AND IMPORTS

Initially, the US exports 100 units of goods (the export volume) at an average price of $1. The price elasticity of demand for exports is 0.8.

1 What is the initial value in dollars of total exports?
2 The dollar depreciates by 20 per cent. (a) What is the new volume of exports assuming exporters keep their prices in dollars the same? (b) What is the new value of total exports?

Initially, the US imports 200 units of goods (the import volume) at an average price of $0.60 (60 cents). The price elasticity of demand for imports is 1.5.

3 What is the initial value in dollars of total imports?
4 The dollar depreciates by 20 per cent. As a result, importers have to pay on average $0.72 (72 cents) for each unit of imports. Explain why this is so.
5 (a) What is the new volume of imports, after the depreciation of the dollar, assuming that foreign companies don't change their prices in their own currencies? (b) What is the new value of imports in dollars?
6 (a) What was the initial balance of trade (exports minus imports)? (b) What is the new balance of trade after the depreciation?
7 Give answers to Questions 1 to 6 but assume that the price elasticity of demand for exports is 0.4 and for imports is 0.2.

products constant, so the foreign currency price changes as the exchange rate changes. Similarly, it has been assumed that US exporters have kept the US price of their products constant, so the foreign currency price changes as the exchange rate changes. However, exporters and importers may choose a different strategy. A Eurozone luxury car manufacturer, for instance, may price a model at $40,000 in the USA. If the value of the euro is $2 = 1 euro, it will receive 20,000 euros per car. If the value of the euro falls to $1 = 1 euro, the manufacturer has a choice of strategies. It can keep the euro price constant at 20,000 euros and reduce the dollar price to $20,000. However, a fall in the dollar price of a luxury car may give the wrong signals to US car buyers. They may assume that the cars are no longer luxury cars. They may think that the business is not doing well in the US and is having to reduce prices in order to maintain sales. The fall in the dollar price may generate few extra sales. So the manufacturer is likely to hold constant the dollar price of $40,000 and consequently increase its profit margins. If the value of the euro rises against the dollar, the manufacturer may again choose to hold constant the dollar price. A rise in the dollar price may lead to large falls in sales if the manufacturer is in a competitive market with other luxury car manufacturers.

If exporters in both countries adopt the strategy of leaving the prices they charge to their customers unchanged, a fall in the value of the euro will still improve the current account position for the Euro area. Assume the value of the euro depreciates.

- The euro value of exports will rise because Eurozone exporters have chosen to increase the euro price of exported goods rather than reduce their foreign currency price. Export volumes will remain unchanged because the foreign currency price has remained unchanged. Therefore euro export values will increase because of the euro price increase.
- The euro value of imports will stay the same. Foreign firms have chosen to keep the euro price of their goods constant. Hence volumes will not change. Neither, therefore, will the euro value of imports.

With export values increased and import values unchanged, there will be an improvement in the current account position.

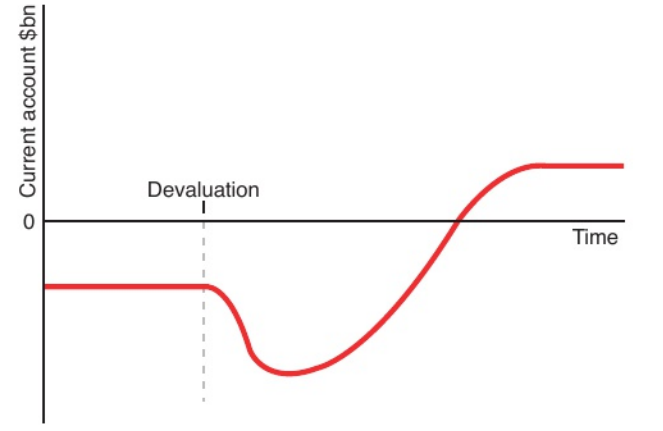
The current account following devaluation or depreciation is likely to get worse before it gets better. This is known as the **J curve effect** and it is shown in Figure 1.

Assume the US has a current account deficit and the US government attempts a devaluation/depreciation of the dollar. In the short run the demand for exports and imports will tend to be inelastic. Although the foreign currency price of US exports will fall, it will take time before other countries react to the change. Hence, the volume of exports will remain the same in the short term, before increasing in the longer term. This means that in the short term, there will be no increase in dollar export values.

**FIGURE 1**

**The J curve effect**

Devaluation/depreciation will initially lead to a deterioration of the current account position before it improves in the longer term.




Similarly, although the dollar price of imports rises, in the short term US buyers may be stuck with import contracts they signed before devaluation. Alternatively, there may be no alternative domestic suppliers and hence firms may have to continue to buy imports. Hence, in the short term, dollar import values will rise. In the longer term, contracts can be revised and domestic producers can increase supply, thus leading to a reduction in import volumes.

Overall, in the short term, import values will rise but export values will remain constant, thus producing a deterioration in the current account. In the longer term, export values will rise while import values might fall, producing an improvement in the current account position.

## THE RATE OF INFLATION

Devaluation and depreciation cause imported inflation. This is not serious if there is a one-off increase in prices. But if it starts or fuels a cost-push inflationary spiral, then the increased competitiveness achieved by the devaluation will quickly disappear. For this reason, devaluation is usually only successful in improving a current account position if it is part of a much wider package of measures designed to increase the competitiveness and performance of a deficit economy.

LINK Student Book 1, Chapter 26

The fall in the value of the currency is also likely to cause aggregate demand to rise as exports become more price competitive and imports less price competitive. As a result, demand-pull inflation may occur.

A rise in the exchange rate is likely to moderate inflation for two reasons. First, a higher exchange rate will tend to lead to a fall in import prices, which then feeds through to lower domestic prices. As explained before, some importers will choose to keep their foreign currency prices the same in order to increase their profit margins. However, other importers will cut their foreign currency prices. The extent to which a rise in the exchange rate leads to a fall in domestic prices depends upon what proportion of importers choose to cut prices.

Second, a higher exchange rate will lead to a fall in aggregate demand. Exports will fall and imports will rise. The fall in aggregate demand then leads to a fall in inflation. The extent to which aggregate demand falls depends upon the price elasticity of demand for exports and imports. The higher the price elasticities, the greater will be the change in export and import volumes in response to changes in prices brought about by the exchange rate movement.

## ECONOMIC GROWTH

A change in the exchange rate may have an impact on long-term growth rates. A higher exchange rate which discourages exports and encourages imports may lead to lower domestic investment, and vice versa for a lower exchange rate. However, the main impact of a changing exchange rate will be felt on short-run output. A rise in the exchange rate will reduce output in the short term because exports will fall and imports rise, leading to a fall in aggregate demand. A fall in the exchange rate will lead to rising exports and falling imports, raising aggregate demand and thus equilibrium output.

## EMPLOYMENT AND UNEMPLOYMENT

A rise in the exchange rate will tend to increase unemployment. This is because an exchange rate rise will tend to lower aggregate demand and thus equilibrium output. A fall in the exchange rate will tend to reduce unemployment. Changes in unemployment will be felt unequally in different sectors of the economy. In those industries which export a significant proportion of output, or where imports are important, there will tend to be larger changes in employment and unemployment as a result of exchange rate changes. In industries, particularly some service industries, where little is exported or imported, changes in the exchange rate will have little effect on employment and unemployment.

## ACTIVITY 2

SKILLS REASONING , ANALYSIS, INTERPRETATION

### CASE STUDY: EGYPT BATTLES INFLATION AFTER CURRENCY DEVALUATION

In November 2016, Egypt decided to let its currency, the pound, float as part of a deal to secure a $12 billion IMF loan. This caused the value of the pound to fall. For many businessmen, this has triggered a set of challenges: high inflation and rising borrowing costs. By July 2017, inflation was around 30 per cent.

Riyada, a cheese manufacturing company with more than 60 per cent of its inputs imported, has experienced sharp increases in its production costs. But it has not been able to pass on the increases to consumers, who have also been hit by rising living costs, in a country which already suffers from widespread poverty. In addition, firms which have foreign currency debt have been left exposed after the pound lost half its value after its flotation. As a result, some companies are putting their expansion plans on hold.

1 Why was the devaluation of the pound in Egypt likely to cause inflation?
2 What evidence in the passage suggests that the devaluation might cause economic growth to slow in Egypt, at least in the short run?
3 What impact is devaluation likely to have on the current account balance in the long run?

## FOREIGN DIRECT INVESTMENT

A fall in the value of a currency, such as the pound, may lead to an increase in foreign direct investment (FDI). For example, a US company may be considering a takeover of a UK company for £100 million. If the exchange rate is £1 = $2.00, then the cost to the US company will be $200 million. Now assume there is a fall in the value of the pound so that £1 = $1.

The takeover will now cost the US company only $100 million. So a fall in the value of the exchange rate should lead to an increase in FDI from abroad. Additionally, transnational corporations that export may be encouraged to set up in the country to benefit from higher revenue as exported goods will become more price competitive in global markets

However, an increase in FDI from abroad may not occur if the value of a currency is continually falling. If the US company buys the UK company for $100 million at an exchange rate of £1 = $1, it has an investment worth £100 million. If the exchange rate falls to £1 = $0.50, that investment is now worth only $50 million all other things being equal. A fast falling exchange rate is an indication that an economy has serious economic difficulties. This is likely to discourage FDI.

### THE CAPITAL AND FINANCIAL ACCOUNTS OF THE BALANCE OF PAYMENTS

Changes in exchange rates can also affect the financial account. For example, as argued above, a fall in the value of a currency is likely to lead to an increase in FDI from abroad. This will show up as more inflows on the financial account. A fast falling exchange rate might discourage FDI. The financial account will therefore record fewer inflows on the financial account. A weak currency might also cause investors to lose confidence, leading to capital flight. Exchange rate uncertainty, perhaps caused by speculation that the currency is about to be devalued, would also cause capital flight. Capital flight would be recorded as more outflows on the financial account.

## COMPETITIVE DEPRECIATIONS/ DEVALUATIONS AND THEIR CONSEQUENCES

A country which deliberately devalues or depreciates its currency to gain a competitive advantage runs the risk that other countries will also devalue their currency. Where a country is running a persistent current account deficit, there will be an international acknowledgement that this is likely to cause economic problems for the country concerned. Competitive devaluations are therefore unlikely to result. However, a country may have a current account surplus and still devalue. This could be because it wants to stimulate demand in its economy because it is experiencing low growth or high unemployment. Devaluation becomes a policy tool to improve the domestic economic situation rather than the balance of payments. In this situation, countries are more likely to respond. The other situation where there is likely to be competitive devaluation is where two countries are economically highly interlinked. Denmark, for example, has its own currency but this is pegged to the euro. The Eurozone is by far Denmark's largest export market. So when the euro falls in value, the Danish central bank will ensure that the Danish currency, the krone, falls by an equal amount. Effectively, Denmark is following a policy of competitive devaluation with the Eurozone.

### CHECKPOINT

1. What is the difference between revaluation and appreciation?
2. State the Marshall–Lerner condition.
3. Sketch a J curve. Make sure the axes are correctly labelled.
4. What is the likely effect of a fall in the value of currency on economic growth and unemployment?
5. What is the likely effect of appreciation of a currency on the rate of inflation?

### SUBJECT VOCABULARY

**appreciation of a currency** when the value of a currency rises because of free market forces or with a managed float, because of government intervention

**depreciation of a currency** when the value of a currency falls because of free market forces or with a managed float, because of government intervention

**devaluation of a currency** when a government or central bank officially fixes a new lower exchange rate for the currency in a fixed or pegged system of exchange rates

**J curve effect** in the short term, a devaluation is likely to lead to a deterioration in the current account position before it starts to improve

**Marshall–Lerner condition** devaluation will lead to an improvement in the current account so long as the combined price elasticities of exports and imports are greater than 1

**revaluation of a currency** when a government or central bank officially fixes a new higher exchange rate for the currency in a fixed or pegged system of exchange rates

## THINKING LIKE AN ECONOMIST

### STERLING'S DEPRECIATION AFTER THE BREXIT VOTE HAS NOT LED TO AN EXPORT BOOM

Since the Brexit vote of 2016 in the United Kingdom, the value of the pound has fallen by 15 per cent. Traders have sold sterling because they fear for the UK's prospects. However, some see an advantage to this situation. With products more competitive abroad, the argument goes, the UK economy will rebalance away from consumer spending towards export-led growth. Past depreciations have helped the UK economy. In 1967, when the prime minister Harold Wilson devalued the pound against the dollar, a jump in exports followed. The conditions looked good this time. Despite protectionist talk from Donald Trump, world trade has recently grown well.

Most analysts predicted that the depreciation in sterling would improve the trade balance in the long run. However, the immediate effect is usually a worsening of the trade deficit. In January 2017 the senior economist at ING said, 'For now, the UK trade numbers are exhibiting the traditional J curve effect. However, over the coming year we expect to see the weak pound's boost to competitiveness more broadly felt.' However, so far there has been no improvement on the current account. In the second quarter of 2017, the trade deficit reached £8.9 billion, compared to £7.8 billion one year earlier, as the volume of imports grew just as fast as the (smaller) volume of exports.

The impact of sterling's depreciation on reducing the current account deficit has been limited for a few reasons.

For one thing, firms are locked into global supply chains and rely heavily on foreign imports. Half the components in a 'British-made' car come from abroad. If exports rise, so do imports.

The economy also specialises in high value items such as medicines. Buyers of these goods are insensitive to price. Even in industries where this is not true, such as tourism, the impact has been limited. Although visits by foreign tourists were up by 7 per cent, visitors seem to be using their money carefully: their overall spending in real terms is no higher than before.

Depreciation provides an opportunity for firms to seek out new markets to exploit their new competitive advantage. However, exporters of goods have tended to raise the sterling price of their products, in a move that boosts profit margins rather than market share. So, although export revenues have risen, export volumes remain largely the same. This means the fall in the value of sterling has not led to the export boom some were hoping for.

And with uncertainty over Britain's future trading arrangements with the EU, few companies have been willing to invest in new plant and equipment to encourage exports.

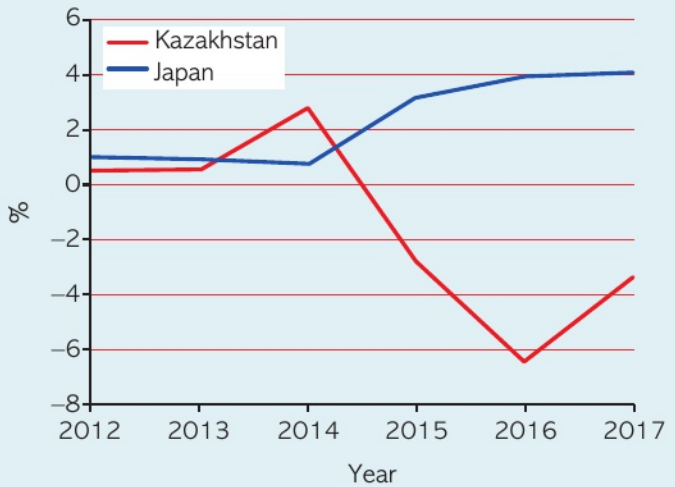
## EXAM PRACTICE

# THE UPS AND DOWNS OF JAPAN AND KAZAKHSTAN'S CURRENCIES

**SKILLS** REASONING, ANALYSIS, PROBLEM-SOLVING, CRITICAL THINKING

### EXTRACT A: JAPAN FEELS THE RISE IN THE VALUE OF THE YEN

At the beginning of 2018, the value of the yen appreciated sharply. By February 2018, the value of the yen had reached a 15-month high at 106.5 yen against the US dollar.




▲ Figure 2 Current account (% of GDP)

According to the latest Bank of Japan survey of business, large manufacturers have built their business plans on a foreign exchange rate of 110 yen against the dollar. However, a stronger currency will lead to lower sales and profit forecasts. The timing of the yen's rise is especially sensitive, because corporations are finalising their investment plans for the financial year starting in April.

Japan has a history of currency intervention, selling heavily in the early 2000s to weaken the yen. It did so again after the 2008 financial crash and most recently after the 2011 earthquake and tsunami. However, Donald Trump accused Japan of manipulating the yen during his election campaign, so trade tensions would make any intervention particularly sensitive. Japan would want to avoid a trade war.

According to measures of fundamental valuation, the yen was still cheap despite its rise in early 2018. Estimates by the Peterson Institute in Washington put the yen's equilibrium exchange rate at 101 yen to the dollar.

## EXTRACT B: KAZAKHSTAN

In February 2014, the Kazakh central bank devalued the tenge by almost a fifth. The move had been driven, it said, by 'the need to restore the external competitiveness of the tenge exchange rate, by the external balance of the economy of Kazakhstan, and to maintain the competitiveness of domestic companies'.

In August 2015, the tenge was allowed to float freely. It immediately fell in value by 23 per cent. The central bank had spent $28 billion supporting the currency in less than two years; equivalent to more than a quarter of the combined central bank reserves and national oil fund. So devaluation was expected.

Kazakh consumers are likely to be faced with rising inflation which will reduce their real incomes. Mr Kelimbetov, the central bank governor, accepts that inflation is likely to go above the central banks' 6-8 per cent target.

**1** Between January and August 2018, the value of India's currency, the rupee, fell by nearly 10 per cent against the US dollar. Which one of the following is likely to occur? **(1 mark)**

(a) The current account balance for India is likely to improve in the short run because of the J curve effect
(b) The rate of inflation in India will fall
(c) In the long run, the value of exports will rise relative to import values
(d) Real GDP will fall

**2** Read the above extracts and answer the following.

(a) Explain what is meant by the term 'devaluation' (Extract B). **(4 marks)**
(b) With reference to Extract A, analyse the likely problems for Japan's economy if Japan's central bank had deliberately intervened in 2018 to reduce the value of the yen. **(6 marks)**
(c) With reference to the information provided, examine the likely impact of the appreciation of the yen on domestic investment in Japan. **(8 marks)**
(d) With reference to the information provided, discuss the likely impact of the fall in the value of the tenge on Kazakhstan's economy. **(14 marks)**

**3** By August 2018, the value of the US dollar had increased against several developed and emerging market currencies. To what extent might appreciation of a country's currency worsen its economic performance? **(20 marks)**

**EXAM HINT**

For Question 2b, consider the impact on Japan's economic growth if the United States erects protectionist measures against Japan.

**EXAM HINT**

For Question 2d, analyse the likely impact on the current account balance, inflation, economic growth and unemployment. Use Figure 2 to support your explanation of how the current account balance might change in the short run and long run. Under what assumptions will the gains be more significant?

# 31 INTERNATIONAL COMPETITIVENESS

UNIT 4
4.3.3

## LEARNING OBJECTIVES

- Understand the measures of international competitiveness:
  - relative productivity rates
  - relative unit labour costs
  - relative export prices
- Understand the factors influencing international competitiveness:
  - productivity
  - quality of human capital
  - exchange rate
  - wage and non-wage costs
  - regulations
  - quality of infrastructure
  - non-price factors
- Understand the measures to increase international competitiveness:
  - policies to improve education and training
  - investment incentives
  - privatisation and deregulation
  - measures to reduce the exchange rate of the currency
  - trade liberalisation
- Understand the significance of international competitiveness:
  - advantages for an economy of being internationally competitive
  - problems for an economy of being internationally uncompetitive

## GETTING STARTED

Consider a mobile phone company, for example Apple or Samsung. Make a list of six factors that could make the company more internationally competitive. Which of these do you think is more important and why?

## COMPETITIVENESS

International competitiveness is the ability of a firm or a country to compete effectively in international markets. Many firms compete in global markets. It could be a small firm exporting furniture, or a UK factory of a Japanese transnational exporting motor vehicles, or a hotel in India serving customers from the United States. Many firms are affected by global markets. Much manufacturing in advanced economies has disappeared over the past 40 years because it could not compete with imports from countries with much cheaper labour. Equally, many advanced economies both export and import high tech products.

The competitiveness of individual firms and industries therefore changes over time. Competitiveness can be used in the context of national economies. For example, it could be argued that the Chinese economy is more internationally competitive than the Indian economy. In this chapter, we will consider how competitiveness can be measured, what influences **international competitiveness**, what policies the government can use to improve competitiveness and the significance of international competitiveness.

## MEASURES OF COMPETITIVENESS

There are several measures of international competitiveness, which include the following.

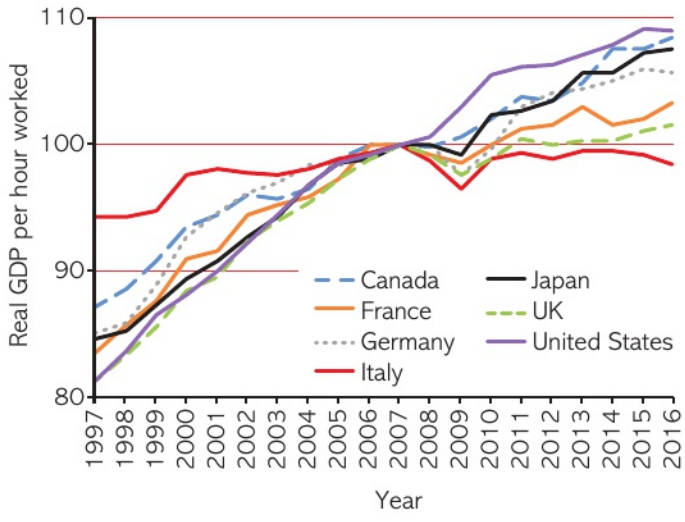
### RELATIVE PRODUCTIVITY RATES

**Labour productivity** is output per hour worked. It is measured as real GDP per hour worked. Labour productivity measures how efficiently labour is combined with other factors of production in the production process. Figure 1 shows how output per hour has changed between 1997 and 2016 for the G7 countries. Italy's productivity has remained fairly flat over the period since its output per hour has remained broadly the same. Since 2007, the average productivity growth rate was lowest in Italy, followed by the UK. However, unlike Italy, the UK had relatively strong productivity growth in the period before 2007. Output per hour fell in most of the G7 countries during the 2008 and 2009 recession and then increased sharply in the US and Canada.

The country which experienced the sharpest rise in productivity over the whole period is the USA – real GDP per hour worked rose from an index of 81.3 in 1997 to 109.1 in 2016. This is a rise in productivity of 34 per cent over the period. This means its average productivity growth was 1.8 per cent per year.

**FIGURE 1**

**Real GDP per hour worked, G7 countries, index 2007 = 100**




A rise in an economy's relative labour productivity rate means its output per hour worked is growing faster than another economy. Or alternatively, it means its output per hour worked is falling more slowly than its competitors. A rise in **relative productivity**, all other things being equal, will improve a country's international competitiveness.

**Multifactor productivity** is also used to measure international competitiveness. This measure considers both labour and capital productivity. Multifactor productivity reflects the overall efficiency with which labour and capital inputs are used together in the production process.

## RELATIVE UNIT LABOUR COSTS

**Unit labour costs** are total wages divided by real output: they are the average cost of labour per unit of output produced. It is the cost of employing labour divided by the amount that labour produces. For example, if a firm employs 100 workers at $1000 each, its total wage bill will be $100,000. If these workers produce 50,000 units of output, unit labour costs are $2 per unit. If labour productivity rises, and these workers now produce 100,000 units, then unit labour costs will fall to $1 per unit. The unit labour cost will depend on the level of wages and how much a worker can produce. Both labour productivity and wages tend to increase over time. If labour productivity rises faster than wage growth, then unit labour costs will fall. However, if wages rise faster than labour productivity, then unit labour costs will increase.

Unit labour costs for an economy are measured in index number form with one year chosen as a base year equal to 100. **Relative unit labour costs** are unit labour costs compared to other countries. For example, a rise in US relative unit labour costs shows that labour costs per unit of output are rising faster in the US than in other countries. Or alternatively, US unit labour costs are falling less fast than in other countries. Hence, a rise in US relative unit labour costs shows that the US is becoming less competitive. A fall in US relative unit labour costs shows that the US is becoming more competitive.

## RELATIVE EXPORT PRICES

**Relative export prices** are the export prices of a country's goods and services compared to the export prices of that country's main trading partners, expressed as an index. For example, a rise in relative export prices for the United States means that export prices of US goods have risen faster or fallen less than those of the US's main trading partners. Therefore a rise in relative export prices shows that there has been a fall in US international competitiveness. Similarly, a fall in relative export prices shows that there has been a rise in US international competitiveness.

# FACTORS INFLUENCING COMPETITIVENESS

There are a number of factors which affect international competitiveness, which include the following.

## PRODUCTIVITY

Rises in an economy's productivity, relative to its main trading partners, will increase that country's competitiveness. For example, if a US export firm is able to produce 20 per cent more goods with the same amount of labour, then labour productivity will have risen. This will reduce unit labour costs. This is likely to lead to the firm cutting its prices, making its goods more internationally price competitive if foreign firms have not achieved this rise in productivity. However, if foreign firms at the same time have increased their production by 30 per cent with the same amount of labour, the US firm's relative productivity will have fallen, making it less competitive. This assumes that all other factors such as wage costs remain the same.

## QUALITY OF HUMAN CAPITAL

Human capital is the value of the productive potential of an individual or group of workers. It is made up of the skills, talents, education and training of an

individual or group of workers. An improvement in the quality of human capital should increase labour productivity and therefore reduce unit labour costs. This increases the price competitiveness for firms.

Education and training will also affect non-price competitiveness. A well-educated workforce will have the skills to drive innovation – both product and process innovation, which were discussed in Unit 2. Innovation will help to drive new and better quality products onto markets.

## EXCHANGE RATES

The exchange rate affects the price at which products are bought and sold internationally. Changes in the exchange rate will affect the price competitiveness of goods and services on international markets. For example, a rise in the US's exchange rates is likely to make US goods less price competitive abroad and imports more competitive in US markets. A fall in the US's exchange rates is likely to make US goods more price competitive abroad and imports into the US less competitive. The extent to which there is a change in competitiveness depends in part on the price elasticity of demand for a good. The lower the price elasticity of demand, the less impact a change in price caused by a change in the exchange rate will have on quantity demanded. Also, the way in which firms respond to a change in the exchange rate will affect competitiveness. For example, if export firms respond by keeping foreign currency prices the same, there will be no change in price competitiveness, although there could be long-run effects due to changes in profits and the impact this has on investment.

## WAGE AND NON-WAGE COSTS

The cost of employing labour for a firm are the wages it pays, as well as non-wage costs paid by the employer. Both these will affect the average cost of labour per unit of output produced. For example, if US wage and non-wage costs, such as company pensions or taxes on employment of workers, rise relative to its main trading partners, then the US will become less internationally competitive. Increases in wage costs are likely to lead to increases in prices. So a 10 per cent rise in wages in the US is likely to lead to some rise in export prices. The extent of the rise will depend on factors such as increases in labour productivity and whether firms are prepared to change their profit margins.

## REGULATIONS

Increases in regulation of industry tend to increase costs of production for firms. For example, UK firms tend to have lower costs than firms in France and Germany because regulation is lighter in the UK. Hence, less regulation is likely to increase international competitiveness.

## QUALITY OF INFRASTRUCTURE

The quality of infrastructure in an economy will affect the cost of transporting goods and services. Poor infrastructure in roads, rail and air will increase the time it takes to transport goods. This will increase transport costs and make it harder for firms to remain price competitive. Problems with electricity supply and transport, which disrupt production, will reduce labour productivity – output per worker will fall. This means unit labour costs will rise. International competitiveness will be reduced.

## NON-PRICE FACTORS

Prices and costs are only one factor determining demand and supply. **Non-price factors** are factors other than price which influence a consumer's demand for a product. These include design, branding and quality. Firms which produce better-quality products than their international rivals will have a competitive advantage. In advanced economies, the manufacturing sector in recent years has only survived because it has avoided price competition with cheap labour countries and produced unique better-quality products. Technology and innovation are often important because a country can then produce technologically advanced products that other countries do not make.

## ACTIVITY 1

SKILLS REASONING, INTERPRETATION

### CASE STUDY: RUSSIA FACES CHALLENGES

The World Bank expects GDP in Russia to increase by 1.7 per cent in 2018 and 1.8 per cent in 2019. This is more than one percentage point below the global average. The main problem is that Russia has not invested enough. Between 2015 and 2016, Russia was in a recession, but even by 2014, investment was falling. The lack of investment shows in low levels of industrial automation and weak infrastructure. Combined with increasing bureaucracy and corruption, production costs are increasing. This is making it hard for Russia to compete with other emerging markets.

Between August 2014 and March 2015, the value of the rouble fell sharply. But with the value of the rouble rising steadily, this advantage is quickly disappearing.

**1** Outline the factors influencing Russia's international competitiveness from 2014 onwards.

# MEASURES TO INCREASE INTERNATIONAL COMPETITIVENESS

## POLICIES TO IMPROVE EDUCATION AND TRAINING

The quality of education and training provided by a government will be limited by how much it can spend. Spending on education and training per capita will clearly be a main factor which influences its quality. However, the government can maximise the returns with other polices. Curriculums need to change over time to meet new needs. For example, advances in technology require workers with new skills. Teachers need to be trained to meet these needs in the classroom too. There might be opportunities to learn a wider range of skills if more vocational courses (which relate closely to a specific occupation) are offered as well as traditional subjects. Digital learning might also provide a way for learning outcomes to improve on limited budgets. Economies also experience structural unemployment, so the government needs to ensure that there are training opportunities for individuals throughout their lives. Firms might be given tax incentives or subsidies to extend the training schemes they can provide. It is also important that all groups, regardless of income, can have access to good quality education and training. How governments support those on low incomes will also therefore affect the skills of the population as a whole.

## INVESTMENT INCENTIVES

Investing in more advanced technology should increase both capital and labour productivity for a business. This increases international competitiveness as unit labour costs fall. Investment in research and development (R&D) also helps competitiveness. R&D influences the uniqueness of a product. The extent to which firms engage in research and development may influence their long-term international competitiveness. For example, in industries such as aerospace or pharmaceuticals, R&D determines whether a firm will have unique products to sell in five, 10 and 20 years' time in international markets. R&D may also help to reduce costs of production if it leads to new labour and capital-saving equipment being introduced, and it might help to develop a new comparative advantage for an economy.

A government can promote investment by keeping taxes on profits low. This means firms have more sources of finance available for investment. The government might also use interventionist supply-side polices to promote investment, such as grants available for investment, such as R&D, and tax relief on investment spending.

## PRIVATISATION AND DEREGULATION

Privatisation is the sale of government organisations to the private sector. Deregulation is the process of removing government controls from markets. Deregulation can occur in both product and labour markets. The impact of deregulating product markets and privatisation is to increase competition. A more competitive business environment incentivises firms to keep prices as low as possible. There is also an incentive to innovate to keep product design ahead of rivals. Deregulation of labour markets will help to reduce labour costs for firms. This will help to lower unit labour costs. As a result firms will be more price competitive.

## ACTIVITY 2

SKILLS: REASONING, ANALYSIS, CRITICAL THINKING, COMMUNICATION

### CASE STUDY: ITALY'S COMPETITIVENESS

Italy's economy is uncompetitive. Since 1998 productivity has fallen steadily. Labour costs, however, have not. Since Italy joined the euro, exports have not driven growth.

There is no shortage of reasons for Italy's lack of competitiveness. With high regulation of labour and product markets, it is one of the most expensive places in the world to start a new business. Taxes and bureaucracy strongly discourage productive firms from growing very large.

The share of young Italian workers with a university degree is among the lowest in the rich world. At just under 10 per cent, the share of highly educated Italians living abroad is also among the highest in the rich world.

Rather than waiting for productivity to rise, a quicker route is to push wages down. Imposing a decentralised wage setting process, rather than a centralised one, might help. Unlike countries outside the Eurozone, depreciation is no longer an option for boosting international competitiveness.

1 What measures might the government introduce which could help a country such as Italy become more internationally competitive?

## MEASURES TO DEPRECIATE THE EXCHANGE RATE OF A COUNTRY

A government may control the value of its currency on international markets, either by changing interest rates or through the central bank's buying and selling of foreign exchange reserves. A competitive devaluation is when a central bank buys foreign exchange reserves to cause the value of their currency

to fall. Depreciating the exchange rate would cause international price competitiveness to increase. However, deliberately reducing the value of a currency is considered to be a form of protectionism. This is likely to lead other countries to impose protectionist measures as a response.

### TRADE LIBERALISATION

**Trade liberalisation** is the removal or reduction of restrictions on free trade between countries. The impact of trade liberalisation will be to increase competition. A more competitive business environment drives innovation and efficiency. Firms will want to find ways to increase labour productivity to keep unit labour costs down. This will be necessary to remain price competitive in international markets. Firms also have an incentive to invest in product innovation, so that they develop non-price competitive advantages.

### TAXATION

Firms argue that levels of company taxation are important to international competitiveness. Low taxes on profit encourage investment and innovation, which lead to improved international competitiveness. High taxes on profits might therefore lead to deteriorating international competitiveness. However, it can be argued that high taxes could lead to increased spending on education and infrastructure which would increase international competitiveness.

## BENEFITS OF BEING INTERNATIONALLY COMPETITIVE

International competition produces winners and losers among firms, industries and countries. The winners are likely to be those that are most efficient. Either their costs of production are lower (productive efficiency) or they are producing goods that are more attractive to buy. For example, they may be better quality, better designed or incorporate the most recent technologies (allocative and dynamic efficiencies). This greater efficiency then creates a variety of benefits for the economy.

**Current account surpluses** Countries which are internationally competitive are likely to run current account surpluses on the balance of payments. This is because exports are likely to be larger than imports. A surplus frees them from the limitations that a country with a very large deficit may face. A current account surplus gives the country the opportunity to invest overseas and build up a surplus of assets overseas on which interest, profit and dividends can be earned.

**Foreign currency** Selling goods and services to other countries means an economy receives foreign currency. This is then used to purchase imports. Many developing countries need to purchase capital goods from abroad. A lack of foreign currency may therefore limit their investment in capital goods. This would reduce their potential growth.

**Foreign direct investment inflows** A competitive economy is likely to attract inflows of foreign investment. Foreign companies might want to set up factories and offices in the country either to sell into the domestic market or to use as an export base. Equally, foreign companies might want to buy domestic firms to exploit their competitiveness. Whichever option is chosen, there is likely to be a transfer of knowledge, skills and technology to domestic firms, increasing their competitiveness.

**Employment** Being internationally competitive suggests that exports are likely to be high in relation to imports. The economy can gain from export-led growth. This creates jobs in the domestic economy and reduces any unemployment that might be present.

**Economic growth** Greater efficiency is likely to lead to higher economic growth. Greater demand for exports will lead to higher investment and will contribute to higher aggregate demand and long-run aggregate supply.

**Wage growth** For developing countries, a major source of their international competitiveness might be low wages which allow for low costs of production. Being internationally competitive should lead to higher exports and greater demand for workers. As a result, wage rates are likely to rise, benefiting workers.

**Higher domestic purchasing power** Consumers in the economy are likely to benefit. First, their incomes are likely to rise faster because of higher economic growth. Second, they will be able to buy goods and services that are lower in price and more attractive to buy than if the country was less internationally competitive.

An economy which is internationally uncompetitive is likely to experience the opposite. It is more likely to have current account deficits, a lack of FDI inflows, higher unemployment, lower economic growth, lower domestic purchasing power and lower wage growth.

## PROBLEMS OF SUSTAINING INTERNATIONAL COMPETITIVENESS

The problem with being internationally competitive is that this competitiveness can be lost.

- For low and middle-income countries, the competitive benefits of low wage costs are likely to reduce as the country becomes more developed and wage rates rise at a relatively high rate.
- Other costs, such as the price of land or the materials bought from other domestic firms, are likely to rise as a country becomes more developed. Again, this could slowly reduce international price competitiveness.
- A current account surplus could lead to a rise in the exchange rate, making exports more expensive to foreign buyers and imports cheaper for domestic buyers. This reduces competitive advantage.
- Less competitive foreign countries may impose trade barriers to protect their own less competitive industries. This will reduce a country's competitive advantage.

However, international competitiveness is not inevitably lost as a country becomes more developed. Germany and Singapore are two examples of highly competitive economies that have retained their competitiveness over a long period of time.

### CHECKPOINT

1 What is meant by the phrase 'unit labour costs'?

2 What happens to an economy's international competitiveness if relative export prices rise?

3 How would a fall in a country's exchange rate affect its international competitiveness?

4 State one reason why poor infrastructure may make an economy less competitive.

5 What is meant by 'non-price' competitiveness?

6 How does improving education and training increase international competitiveness?

7 What impact is trade liberalisation likely to have on an economy's competitiveness?

8 State three advantages for an economy if it is internationally competitive.

### SUBJECT VOCABULARY

**international competitiveness** the ability of a firm or a country to compete effectively in international markets

**labour productivity** output per hour worked or output per worker; it is often measured as real GDP per hour worked

**multifactor productivity** the overall efficiency with which labour and capital inputs are used together in the production process

**non-price factors** factors other than price which affect competitiveness

**relative export prices** export prices of a country's goods and services compared to the export prices of that country's main trading partners

**relative productivity** labour productivity compared to other countries

**relative unit labour costs** unit labour costs compared to other countries

**trade liberalisation** the move towards greater free trade through the removal of protectionist barriers to trade

**unit labour cost** the cost of employing labour per unit of output or production

## THINKING LIKE AN ECONOMIST

# SPAIN'S EXPORTERS DRIVE ECONOMIC RECOVERY

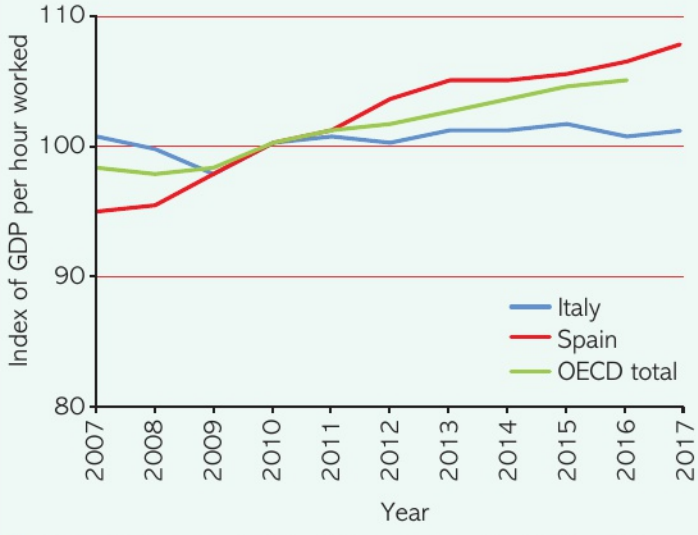
Spain's economy is doing well. It has grown by over 3 per cent over the last three years, well above the Eurozone average. What is different from the early 2000s, when Spain enjoyed high growth rates which peaked at 5.3 per cent in the year 2000, is that growth is now more export-driven. Back in the early 2000s, growth was driven by domestic demand partly funded through debt, an overheated and uncompetitive construction sector and a severe housing bubble. Now the domestic construction sector has shrunk and in its place are manufacturing and other high skilled industries.

Spain's deep economic crisis from 2008, to some extent, helped to shift Spain towards the export-led growth economy it is today.

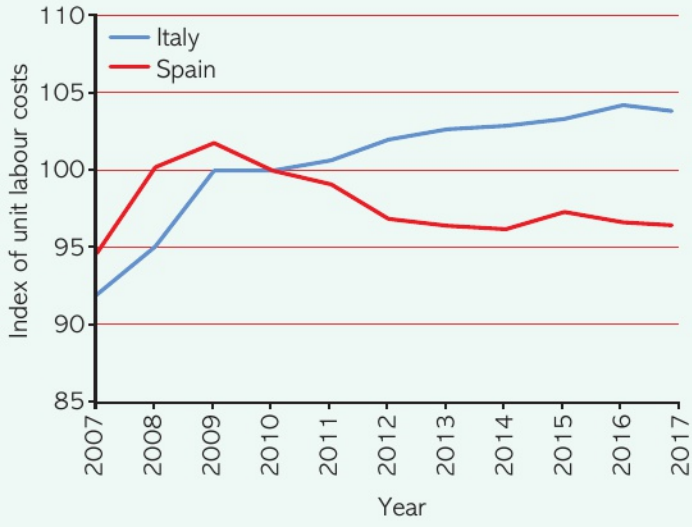
Firstly, the economic crisis led to a fall in wages. With unemployment rising from 8.2 per cent in 2007, to a peak of 26.1 per cent in 2013, Spanish workers lost a lot of their bargaining power. This resulted in a fall in average earnings. Labour market liberalisation also made it easier and cheaper to make workers redundant and encouraged companies to make agreements at factory level rather than in collective wage deals. These changes therefore helped to reduce wage and non-wage costs.

Secondly, since 2007, Spain's labour productivity has increased faster than the OECD average and significantly more than its neighbour, Italy. For example, by 2016 Spain's GDP per hour worked was 6.4 per cent above its 2010 level. In contrast, Italy's GDP per hour worked was only 0.7 per cent higher than its 2010 level.

The combination of Spain's falling wages and rising labour productivity helps to explain why unit labour costs have fallen for Spain since 2009. Any changes in capital productivity will also contribute to changes in unit costs. Figure 3 shows that in 2017, Spain's unit labour costs – the average cost of labour per unit of output produced – were 3.5 per cent lower than in 2010; in contrast, Italy's unit labour costs were 3.7 per cent above their 2010 level.




▲ Figure 2 Labour productivity: GDP per hour worked, 2010 = 100
Source: OECD




▲ Figure 3 Unit labour costs, 2010 = 100

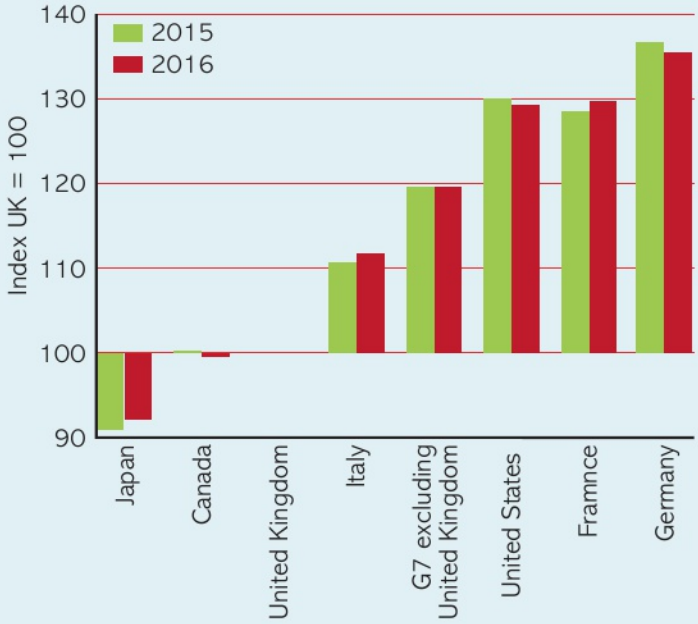
All this means the goods and services produced in Spain are becoming more internationally price competitive. Exports in Spain now make up a third of national output, compared to a quarter before the crisis. In 2017, there was a 22-billion-euro current account surplus: in the early 2000s the trade deficit reached more than 100 billion euros.

However, no one is sure how long Spain's rising exports can last. As the European Commission has said, Spain's exporters specialise in medium-low quality; these are more exposed to competition from emerging economies.

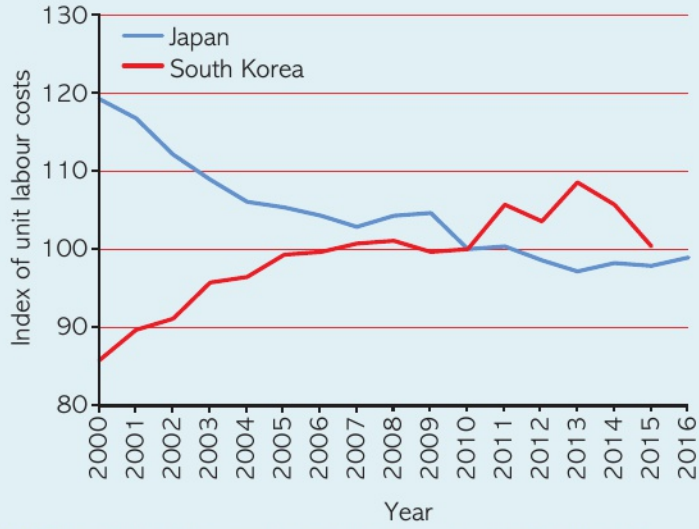
# EXAM PRACTICE

## WILL THERE BE TOUGH TIMES AHEAD FOR SOUTH KOREA?

**SKILLS** PROBLEM-SOLVING, REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING



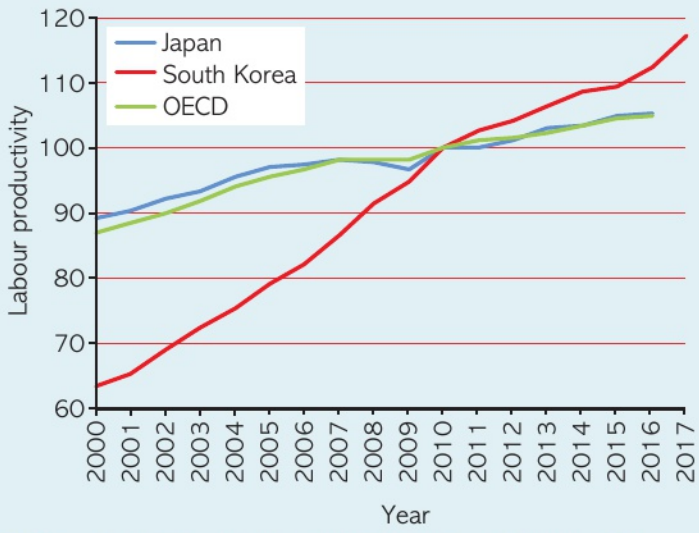

▲ Figure 4 Gross domestic product per hour worked, G7 countries, 2015–2016




▲ Figure 5 Unit labour costs by hours worked method, 2010 = 100

### EXTRACT A: CONCERN FOR COMPETITIVENESS

In the past, South Korean shipbuilders were beating Japanese rivals on cost and China on quality. However, Japan has gained competitiveness from a weaker yen and China is posing a threat.




▲ Figure 6 Labour productivity: GDP per hour worked, 2010 = 100

A report in 2017 identified South Korea as the country most exposed to Chinese competition. Shipbuilding is already feeling the pressure. At Hyundai Heavy Industries, the largest South Korean shipbuilder, thousands of workers have been put on part-time working arrangements, or made permanently redundant.

Other industries are worried too. Car exports to China are falling, as the quality of Chinese cars improves and South Korean brands fail to match the appeal of Japanese and European ones. South Korea may also risk being left behind by China's efforts to shift to driverless vehicles.

With more intense competition, there is concern that the government's redistribution policies will cause economic pain. The plan to spend more on welfare, using revenues from tax increases on large companies and high income earners, could reduce incentives to invest. Increasing the minimum wage by 15 per cent a year to 10,000 Won by 2020, will be a further new cost for South Korean firms

In March 2018, the US was moving towards an arrangement with South Korea to stop currency manipulation. The goal was to prevent competitive devaluation. Although the US has not formally called South Korea a currency manipulator, it wants to make sure US jobs are not threatened.

## EXTRACT B: SOUTH KOREA'S R&D

Economists say South Korea's spending on research and development has helped its global competitiveness; most R&D is applied research for industrial competitiveness. Led by technology companies, such as Samsung and LG, South Korea invests more than most advanced economies – it spends 4.23 per cent of GDP on R&D.

Traditionally, the South Korean government has committed to research and development by providing huge family-run companies (chaebols) with cheap loans and tax incentives. The government has also supported high tech industries by investing in IT infrastructure. This has helped companies such as Samsung and LG become world leaders in memory chips, displays and smartphones.

However, R&D dominated by chaebols has come at a cost. There are too few new entrepreneurs with innovative ideas, as the chaebols' dominance is an obstacle to new entrants. The government plans an R&D budget of just Won 19.6 trillion ($17.9 billion) in 2018, up just 1 per cent, as it shifts its focus to welfare.

**1** Which one of the following can be deduced from Figure 4? **(1 mark)**

(a) All countries have higher labour productivity than the UK.
(b) Germany's relative productivity with the UK fell between 2015 and 2016.
(c) Germany's unit labour costs must be lower than the UK's.
(d) The UK experienced no change in its productivity between 2015 and 2016.

**2** Read the extracts above and answer the following.

(a) In 2000, the index of unit labour costs for South Korea was 85.6. By 2015 this had risen to 100.3 Calculate the % change in unit labour costs for South Korea over this period. **(2 marks)**
(b) Explain what is meant by the phrase 'international competitiveness'. **(4 marks)**
(c) With reference to Extract A, analyse the likely impact on South Korea's economy of a fall in its international competitiveness. **(6 marks)**
(d) With reference to Extract B and the figures, examine the likely impact on South Korea's international competitiveness of its high spending on research and development. **(8 marks)**
(e) With reference to the information provided, discuss possible reasons why South Korea may find it hard to increase its international competitiveness. **(14 marks)**

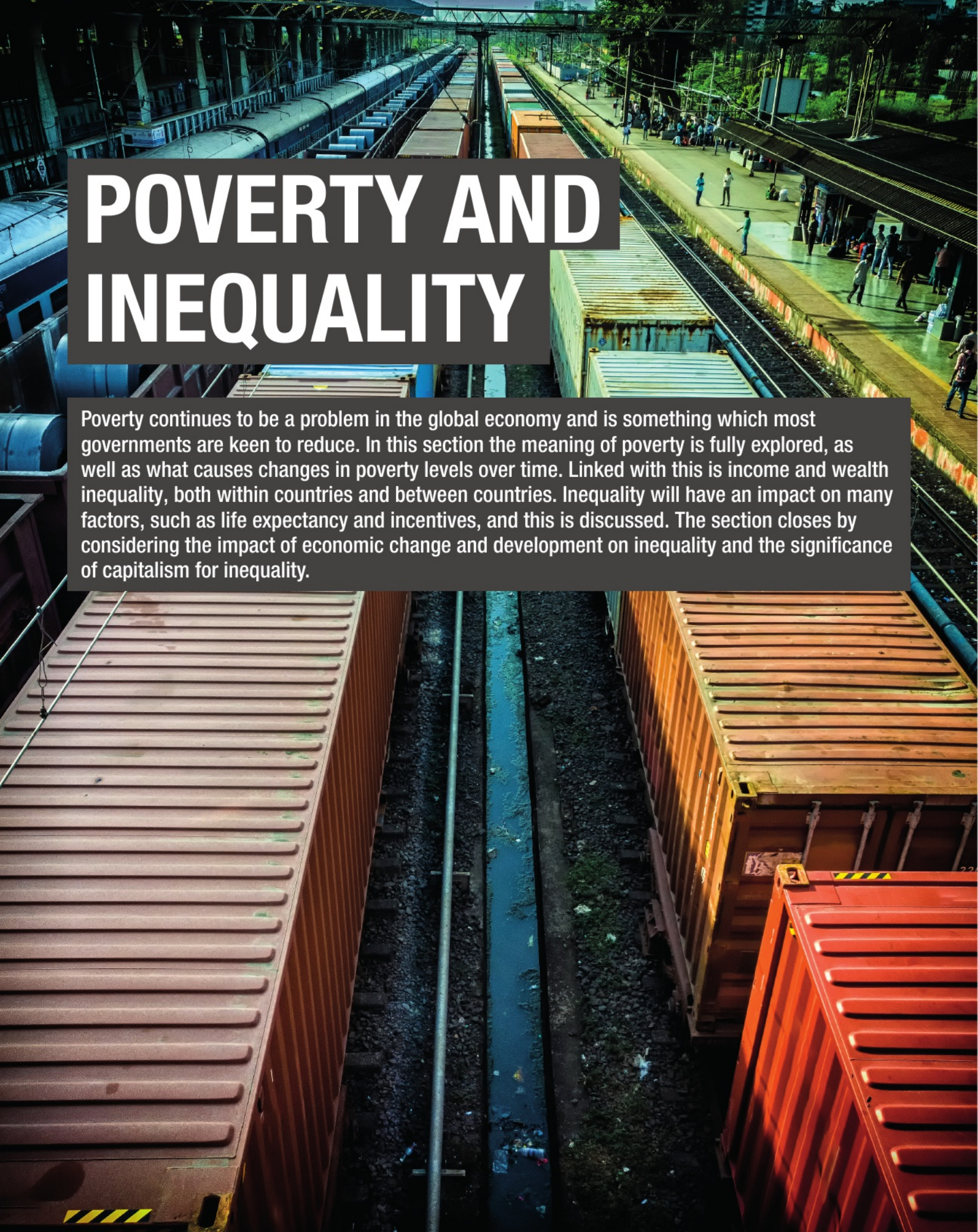
**3** The value of China's currency, the renminbi, has risen on foreign exchange markets over recent years. In 2006, the exchange rate was about Rmb 8 to the dollar. By April 2018, the dollar was only worth Rmb 6.31. To what extent is the exchange rate of a country's currency the most important factor influencing its international competitiveness? **(20 marks)**

### EXAM HINT

For Question 2d, does the data in the figures suggest South Korea is internationally competitive? Why is spending on R&D likely to increase international competitiveness? Make sure your explanation integrates what is meant by international competitiveness and uses evidence from the extract to support your answer. Evaluate by considering why South Korea's R&D spending might be having a limited impact on international competitiveness – the extract provides clues.

### EXAM HINT

For Question 2e, both these extracts suggest why South Korea might face difficulties. Identify the factors which may decrease international competitiveness and analyse why. Evaluate by considering to what extent these factors might be a problem. What have been the recent trends in unit labour costs and productivity shown in the figures?



# POVERTY AND INEQUALITY

Poverty continues to be a problem in the global economy and is something which most governments are keen to reduce. In this section the meaning of poverty is fully explored, as well as what causes changes in poverty levels over time. Linked with this is income and wealth inequality, both within countries and between countries. Inequality will have an impact on many factors, such as life expectancy and incentives, and this is discussed. The section closes by considering the impact of economic change and development on inequality and the significance of capitalism for inequality.

# 32 POVERTY

UNIT 4
4.3.4

## LEARNING OBJECTIVES

- Understand the distinction between absolute and relative poverty
- Understand the measures of absolute and relative poverty
- Understand the causes of changes in absolute and relative poverty:
  - economic growth
  - education and training
  - welfare benefits
  - changes in tax structure
  - structural changes in the economy
  - aid
  - civil wars and conflict

## GETTING STARTED

In France, are you poor if you cannot afford to rent a place of your own or go on holiday, or afford a mobile phone? In Pakistan, are you poor if you cannot eat every day or afford to send your child to school, or own a mobile phone? What is meant by poverty? Is there more than one meaning?

## MEANING AND MEASURES OF ABSOLUTE POVERTY

**Absolute poverty** occurs when individuals are not able to consume sufficient necessities to maintain life. In practice, this means individuals are hungry and suffer malnutrition (they may not have enough food to live and grow). An individual who is living in absolute poverty is living with extreme poverty. They tend to have very limited access to education and basic services. The amount of income needed not to be in absolute poverty varies from country to country. This means each country has its own national poverty line.

A poverty line is the minimum income per day needed to escape extreme poverty. This usually reflects the line below which a person's minimum needs for food, clothing and shelter cannot be met in that country.

Because most extreme poverty is concentrated in the poorest countries of the world, the poverty lines of the poorest 15 countries are used to set the international poverty line. The global or international poverty line is set at $1.90 a day (in 2011 **purchasing power parity**). Anyone living on less than $1.90 a day will be living in extreme poverty. In Bangladesh, 18.5 per cent of the population live below this line, in India it is 21.2 per cent and in Sri Lanka 1.9 per cent.

The United Nations has set a target to end extreme poverty (measured as people living on less than $1.90 a day) for all people everywhere. The World Bank's goal is to reduce extreme poverty to 3 per cent or less by 2030. Extreme poverty has been cut by more than half since 1990. However, as stated by the United Nations, one in five people in developing regions still live on less than $1.90 a day. Most people living below the poverty line live in one of two regions: Southern Asia and sub-Saharan Africa.

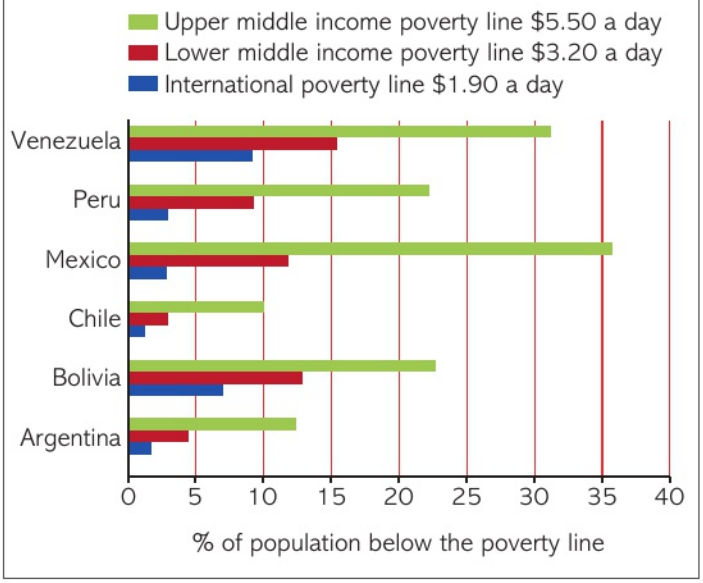
The $1.90 a day poverty line is the main measure of absolute poverty, used by the United Nations and World Bank in their goals of ending poverty. However, many middle-income countries have found $1.90 a day to be far too low. In these countries, more money is needed per day to avoid absolute poverty. So these countries, have significantly higher national poverty lines. In 2017, the World Bank introduced two new poverty lines for middle-income countries. The poverty line for lower middle-income countries is set at $3.20 a day and the poverty line for upper middle-income countries is set at $5.50 a day. These poverty lines are considered to be a more realistic measure of absolute poverty for middle-income countries. They help these countries to monitor how well they are reducing extreme poverty, compared to other economies at similar stages in their development and similar levels of GDP per capita (see Figure 1).

For advanced economies, the number of people living in absolute poverty is virtually zero. Governments have the resources to provide for the poorest in society and welfare payments exist to provide incomes for people if their incomes fall below minimum standards.

In recent years there has been an interest in measuring absolute poverty using a multidimensional approach. This is because living in extreme poverty means living with a range of different types of deprivation. The $1.90 a day definition of extreme poverty may miss people who would be classified as extremely poor using a wider understanding of extreme poverty.

**FIGURE 1**

**Measuring poverty: Percentage of population below the poverty line**




## THE MULTIDIMENSIONAL POVERTY INDEX (MPI)

The Global Multidimensional Poverty Index (MPI) was developed in 2010 by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme and uses different factors to determine poverty beyond income-based lists. It is an index of multidimensional poverty that covers over 100 developing countries. In 2016, there were 50 per cent more MPI poor people in the countries analysed than there were according to the $1.90 a day poverty line.

The Multidimensional Poverty Index (MPI) measures the percentage of the population that is multidimensionally poor. It uses data for health, education and the standard of living to provide an index number scoring. In total there are 10 indicators of poverty:

- education is measured by indicators of years of schooling and child school attendance data
- health is measured by indicators of **child mortality** and nutrition data
- standard of living is measured by availability of electricity, improved toilet facilities and safe drinking water to households, whether or not the floor of a house is made of dirt, sand or dung, cooking fuel used and assets owned such as a radio, telephone or fridge.

The MPI value will be between 0 and 1. The higher this value, the higher the poverty.

By focusing on data linked to poverty, the MPI highlights countries which are affluent in some respects, such as high average incomes, but where many in the population do not benefit from these high incomes. Because it uses a wide range of indicators, it is not possible to calculate the MPI for every country because all the relevant statistics are not necessarily collected or made available.

Critics argue that the MPI can be difficult to interpret unless further information is available. For example, in the 2016 Human Development Report, the MPI values for Bangladesh and the Congo were very similar (0.188 and 0.192 respectively). In both these countries the proportion of the population in multidimensional poverty is similar: Bangladesh with 40.7 per cent and the Congo with 43 per cent. However, the contribution of deprivation in dimension to overall poverty is quite different between the countries. In Bangladesh, education deprivation is a bigger factor in the overall score than in the Congo. In contrast, living standards deprivation in the Congo was higher than in Bangladesh.

## ACTIVITY 1

SKILLS REASONING

### CASE STUDY: ABSOLUTE POVERTY IN SOUTH AFRICA

According to data released from Stats SA, poverty is increasing in South Africa. More than half of South Africans were poor in 2015, with the poverty headcount increasing to 55.5 per cent from a low of 53.2 per cent in 2011. These figures were calculated using South Africa's national poverty line of R992 per person per month in 2015 prices.

The poverty rate measured at the international poverty line of $1.90 a day is estimated at 18.9 per cent, up from 16.6 per cent in 2011. More progress needs to be made to reduce poverty. For example, using the latest data from the World Bank, 15.8 per cent of the population still have no access to electricity, 23 per cent of the urban population still live in slums and 4.6 per cent of the population have food intake that is insufficient to meet basic needs.

In general, children aged 17 years and younger, black Africans, females, people from rural areas, those living in the Eastern Cape and Limpopo, and those with little or no education are the main victims in the struggle against poverty

**1** Using examples from the data, explain the term 'absolute poverty' and how it might be measured.

## MEANING AND MEASURES OF RELATIVE POVERTY

If there is inequality in society, there will be **relative poverty**, but not necessarily absolute poverty. Relative poverty exists in all economies, whether they are high, middle or low-income economies. Individuals and households who suffer relative poverty are poor in comparison to others in their country or in other countries.

There is no exact accepted measure of relative poverty. However, there are two common ways of attempting to measure it.

The first method compares the poorest incomes with the **median household income** in a country. The median income is the level of income the middle household would receive if all households were ordered from the poorest income to the richest income.

A commonly quoted statistic for relative poverty used by the EU is the proportion of households living on less than 60 per cent of median household income and the total number of people living in those households. In 2015 (the most recent data available in 2017), 17.3 per cent of the EU population earned less than 60 per cent of their respective national median disposable income (after tax and social transfers). In most non-EU OECD countries, this value is between 20 and 25 per cent.

The OECD also publishes relative poverty data. The poverty rate is the ratio of the number of people who live in households whose income falls below half the median household income in an economy to the total population. For example, Costa Rica's poverty rate in 2016 was 0.2. This means 20 per cent of individuals live in households whose income is less than half the median income for all households.

Relative poverty data might also focus on the ratio between the median income and the poorest income groups, using income quintiles or deciles (i.e. by dividing a population into five or ten equal groups, respectively). The OECD publishes a relative poverty measure which compares the median income to the income level at the top of the first decile (poorest 10%). In 2015, this ratio was 4.8 for South Africa and 2.7 for the USA. On this measure, relative poverty in South Africa is significantly higher than in the USA. There is a bigger gap in income between the poorest 10% income group and the median level of income.

The second method considers what goods or services people might have to buy in their country in order not to be considered poor. For this method, relative poverty exists if poor people cannot afford to buy a minimum acceptable basket of goods for the society in which they live. This is why relative poverty is often measured with reference to the median income. Those whose income is substantially below the median income level may not be able to buy the sorts of goods and services which that society views as 'normal'. So in an advanced economy, such as the USA, might consider a person to be relatively poor if they cannot afford to run a car. 'Essential items' in EU countries might include the ability to afford a meal with meat, chicken or fish, or the ability to afford a colour television and keep their home adequately warm. In a low-income economy, a person who owns and runs a car might be considered very rich

The concept of relative poverty explains differences between countries in the world and their meaning of 'poverty'. It would not be appropriate, for example, in developing countries to define poverty as not being able to afford a 1-week annual holiday. Hence, the terms relative and absolute poverty have very different meanings.

## CAUSES OF CHANGES IN ABSOLUTE AND RELATIVE POVERTY

Most governments in developing countries want to reduce absolute poverty. However, economic policies are designed to manage the economy as a whole. These will influence absolute and relative poverty levels either directly or indirectly. The following factors are some of the main causes of changes in absolute and relative poverty for countries over time.

### ECONOMIC GROWTH

Absolute poverty tends to fall as GDP rises. A large number of people who live in absolute or relative poverty are without jobs. Economic growth creates a derived demand for labour. Economic growth, by creating work, is therefore vital in reducing poverty.

However, rising GDP alone may not cause absolute poverty to disappear. The World Bank reports that increases in wages explain around 40 per cent of the drop in absolute poverty over the last decade. But there will always be groups who will never be able to work and earn money and who have no private sources of income; they have to depend either on charity or on the state. For example, the elderly and those too ill to work are two vulnerable groups. The elimination of absolute poverty is thus dependent on how well the state can reach those at risk and provide support.

Economic growth has no clear relationship with relative poverty. Economic growth does not increase the incomes of everyone equally, so relative poverty can fall or rise. The effect of economic growth on relative poverty for an economy will depend on the

causes of economic growth and how this affects income differences between people. This will be determined partly by the sorts of jobs created by economic growth and how wages differ between different sectors in the economy.

LINK Student Book 2, Chapter 17

Changes in wages, through the market mechanism, may push a larger number of individuals or households below a measure of relative poverty, such as 60 per cent of median earnings. A growth in minimum wage jobs in an economy is also likely to increase relative poverty. Rates of relative poverty will also depend on how much a government redistributes the gains of growth among different income groups, for example through cash transfers.

## EDUCATION AND TRAINING

- Education and training promote economic growth by increasing the quality of human capital. This will increase the long term trend rate of growth. Real GDP will increase as the long run aggregate supply curve shifts to the right. If real GDP per capita rises, this will tend to reduce absolute poverty.

LINK Student Book 1, Chapter 22

- Since labour is a derived demand, an increase in real GDP will create jobs. As stated by the World Bank, 'Education is a powerful driver of development and one of the strongest instruments for reducing poverty.' A better educated individual has a higher chance of gaining employment and therefore earnings.
- Education and training also increase an individual's labour productivity, and in a competitive labour market, should increase their wage level.

LINK Student Book 2, Chapter 17

- There is a positive correlation, both within countries and between countries, between the number of years spent in education and the level of income of an individual.

If access to education or access to high quality education has been very limited for a sizeable proportion of children in an economy, then relative poverty is also likely to be high in these economies. When all children in an economy have an equal number of years in school and all schools provide high quality teaching, then relative poverty might be expected to fall. Children born into poor families are more likely to have a lower educational achievement by the end of their schooling. This means these children find it hard to escape poverty, which is sometimes called the **cycle of poverty**. In many advanced economies, schools, which are funded by the government, are given more resources for every disadvantaged child who attends. The objective is to increase social mobility, so children from poor families have a real chance to escape the 'poverty cycle'.

## WELFARE BENEFITS

Welfare benefits are government financial help for the poor and needy. They raise incomes. Welfare benefits are normally designed to ensure that households can afford the minimum acceptable basket of goods for the society in which they live.

In developing countries these can take many forms. Some examples include food hand-outs or cash transfers. These cash transfers might be conditional on families sending their children to school or attending health clinics. They have the effect of directly raising the income of the poor, which should reduce both absolute and relative poverty. The overall impact of welfare benefits on relative poverty, defined by reference to the median income, will depend on how generous these benefits are compared to the median income.

In rich developed countries, there is very little absolute poverty, because these governments often have sufficient resources to work alongside the market mechanism to support vulnerable individuals and groups by providing welfare benefits. In advanced economies there is often a range of benefits designed to support those who are relatively poor. For example, unemployment benefits exist for those who have lost their jobs, disability income support is designed to help those who cannot work, and state pensions are basic incomes provided to all those in the population who are over the retirement age.

Many people who receive welfare benefits in rich countries do have alternative income sources, such as private pension schemes; so not everyone who receives these payments would experience absolute poverty if they didn't exist. However, for some, these welfare benefits are essential. As a result, absolute poverty rates are either zero or very low for advanced economies.

## CHANGES IN TAX STRUCTURE

Taxation affects the level of absolute poverty and relative poverty in two important ways.

- If a government wants to reduce relative poverty, then it will make taxes more **progressive**. This means they will take a much higher percentage from the income of high income earners than from low

income individuals. This tends to reduce relative poverty because it reduces income inequality. However, increases in sales taxes, such as VAT, will have a **regressive** effect. This means they affect those on low incomes the most. This would increase relative poverty.

- If a government can raise more tax revenue from those who are not in poverty, this tax revenue can be used to finance better access to high quality education and healthcare. Government spending on education and health is an important driver of development and economic growth. As a result, absolute poverty should be reduced. Tax revenue can also be used to fund welfare benefits. Both absolute and relative poverty should fall.
  A government can raise more tax revenue, even without changing tax rates or introducing new taxes if it can minimise tax avoidance and tax evasion. However, tax avoidance and tax evasion can be high in developing countries. This is caused either because tax collection systems are underdeveloped or because governments are corrupt, so individuals try to avoid paying taxes.

It is harder for some developing countries to use taxation as a main policy to reduce poverty. If GDP per capita is already very low, it is hard to raise any sizeable amount of tax revenue.

## ACTIVITY 2

SKILLS: INTERPRETATION, ANALYSIS, CRITICAL THINKING

### CASE STUDY: CHANGES IN RELATIVE POVERTY IN BRAZIL

The World Bank states that 29 million people in Brazil were lifted out of poverty between 2003 and 2014. Inequality dropped significantly. The income level of the poorest 40 per cent of the population rose, on average, 7.1 per cent (in real terms) between 2003 and 2014, compared to a 4.4 per cent income growth for the population as a whole. In 2003, the percentage of the population living below the national poverty line in Brazil was 24.9 per cent. By 2015, this had fallen to 8.7 per cent.

One of the key factors which explains the fall in inequality and poverty over this period is the Bolsa Familia, which was introduced in 2003. The Bolsa Familia is a family grant, targeted at very poor families with children. Approximately 13 million families and more than 50 million people now benefit from it. These families receive a welfare payment from the government. In return, they must commit to keeping their children at school and ensure their children attend regular health checks. Studies show that most of the money is spent by these families on food, school supplies and clothes for the children. This has helped to reduce poverty and should reduce the cycle of intergenerational poverty.

1 Using data, explain how absolute and relative poverty have changed in Brazil since 2003.
2 Explain why the introduction of the Bolsa Familia in Brazil has helped to reduce absolute and relative poverty in Brazil.

## STRUCTURAL CHANGES IN THE ECONOMY

As the World Bank states: 'What makes a difference in sustaining the escape from poverty is increasing the earnings from work; that is, having a more productive job. However, half of the world's working population are farmers or self-employed. They work predominantly in low productivity activities such as farming a small plot of land, selling vegetables on the street, sewing clothes or jobs in urban areas that offer low earnings and little security.'

**Structural changes in the economy** are basic changes in the way resources are allocated in an economy. They usually relate to the division of total output between the primary, secondary and tertiary sectors of the economy. For example, a subsistence economy may move towards a manufacturing economy. If jobs can be transferred from low to high productivity activities, this will generate higher wages. This will help to reduce absolute poverty and, if the incomes of the lowest paid are lifted, then relative poverty will fall too.

Structural change might also refer to changes in the distribution of jobs between the **formal** and **informal sectors**. The informal sector in an economy refers to those economic activities which are not recorded in national income statistics. Informal jobs have little or no legal protection for employees. They are usually poorly paid, with irregular hours, little training and low career progression. In developing countries,

**informal jobs** are the main source of income for the poor. Economic growth which increases **formal jobs** will have a greater impact on reducing poverty. For example, since the mid 2000s, Cambodia's growth has largely been caused by clothing exports, tourism, real estate and construction. The growth of these sectors created salaried employment opportunities where previously the vast majority had engaged in unpaid agricultural labour.

LINK Student Book 1, Chapter 5

Structural changes in the economy can also refer to fundamental changes to the economic system in which resources are allocated. Economies which have moved from command economies towards free market economies have undergone structural change. In this case, relative poverty would be expected to increase. Wage differences would widen in a free market economy compared to a command economy. Market forces will determine wages instead of the government intervening in markets and setting wages, in theory, to broadly equal levels. Levels of absolute poverty might also change. Many command economies in practice had low levels of economic growth and low living standards. China used to be a command economy and had many millions living in absolute poverty.

## FOREIGN AID

Foreign aid is the voluntary transfer of resources from one country to another. The term is normally assumed to involve the transfer of resources by a government, taking the form of money, goods and services. Foreign aid is one way to lift people out of absolute poverty.

Financial aid from richer countries can be used to help move people out of absolute poverty in either the short run or the long run. A natural disaster, such as severe flooding, may mean individuals do not have the resources to survive. However, for long term gain, aid will be more effective if it is directed at projects which target poverty reduction, such as health and education.

Financial aid will not be so effective in reducing poverty if governments are corrupt or projects are mismanaged. Foreign aid may also be misdirected into funding military equipment, rather than seeking to promote human welfare. The topic of foreign aid and the effectiveness of using foreign aid to promote growth and development is more fully discussed in Chapter 41.

## CIVIL WARS AND CONFLICT

Conflict is the single most significant factor causing poverty in the world today. According to the World Bank, the share of the extreme poor living in conflict affected situations is expected to rise to more than 60 per cent by 2030. Civil wars and conflict by their very nature increase absolute poverty. War torn countries or regions generally lack access to vital services and food supplies. For example, in Yemen 60 per cent of the population is affected by acute hunger, in South Sudan 45 per cent and in Syria 33 per cent. After three years of conflict in Yemen, 16 million Yemeni people lack access to safe water and sanitation and 16.4 million lack access to adequate health care. Rates of cholera, diphtheria and other diseases are high.

Conflict destroys physical and human capital leading to negative economic growth and increasing poverty. For example, the Yemeni civil war began in 2015 and economic growth that year was –28 per cent.

Poverty, both absolute and relative, may also increase the likelihood of civil war in some cases. In 2011, the UN security council debated the root causes of conflict. Evidence suggested that poverty and under-development increased the risk of violence and conflict. The causes of conflict are complex; but if poverty increases the risk of conflict and conflict increases poverty, this might explain why it is very hard to reduce absolute poverty in some countries.

### CHECKPOINT

1. What is absolute poverty and how is it measured?
2. Describe two ways in which relative poverty can be measured?
3. Why is economic growth likely to reduce absolute poverty?
4. Why does economic growth not necessarily reduce relative poverty?
5. Why is better quality education likely to reduce absolute poverty?
6. What happens to relative poverty if welfare benefits are increased?
7. What is likely to be the main objective of foreign aid?
8. What is the likely impact of civil wars and conflict on absolute poverty?

## SUBJECT VOCABULARY

**absolute poverty** exists when individuals do not have the resources to be able to consume sufficient necessities to survive

**child mortality** the number of children who die; data normally focuses on children under the age of 14/15 and also specifically on the under 5s

**cycle of poverty** when poor children find it hard to escape poverty in adult life

**formal jobs** jobs in the formal sector; these jobs have employment contracts and employees are protected by employment laws

**formal sector** activities in the economy which are recorded in national income statistics

**informal jobs** jobs in the informal sector; informal jobs have little or no protection for employees, they are usually poorly paid with little training and low career progression

**informal sector** activities in the economy which are not recorded in national income statistics

**median household income** the level of income the middle household would receive if all households were ordered from the poorest income to the richest income

**progressive taxes** taxes which take a higher percentage from the income of high-income earners than they do from low-income individuals

**purchasing power parity** an exchange rate of one currency for another which compares the cost of a typical basket of goods in different countries

**regressive taxes** taxes which take a higher percentage from the income of low-income earners than they do from high-income earners

**relative poverty** poverty which is defined relative to existing living standards for the average individual; measurement of relative poverty often focuses on how the poorest incomes compare with the median household income in a country

**structural changes in the economy** any basic changes in the way resources are allocated in an economy

## THINKING LIKE AN ECONOMIST

### THE WORLD HAS LESS EXTREME POVERTY

In 1981, 42 per cent of the world's population was extremely poor, according to the World Bank. By 2016 the estimate was 9.1 per cent. Someone escapes extreme poverty approximately every 1.2 seconds.

These days about four-fifths of all extremely poor people live in the countryside and just over half now live in Sub-Saharan Africa. Unfortunately, Africa has many examples of failures in lifting people out of poverty, while Asia is filled with success stories. For example, in 1985, the share of Nigerians below the international poverty line was estimated to be 45 per cent – a lower proportion than in China or Indonesia. Today Nigeria has a much higher share of poor people than either country. Sub-Saharan Africa now drives the global poverty rate.

The first problem for Sub-Saharan Africa is that economic growth has been weak compared to the rate of population growth. According to the IMF, since 2000, GDP per capita at purchasing power parity has doubled in Sub-Saharan Africa; in emerging Asia it has almost quadrupled.

A second problem is that there is poor governance in many African countries. There are also problems with political violence, such as in the Ivory Coast and Kenya. Violence creates poverty and also makes it difficult for governments to deal with it.

The third problem is that poor people in Africa are very poor indeed. Compare Rwanda with Bangladesh. Both are low income countries, both are reasonably well-governed and both have grown well in the past few years. But Rwanda's poor are much poorer than Bangladesh's. Even if Rwanda experiences 5 per cent growth per capita every year for 10 years, and this growth is spread evenly, a quarter of Rwandans will remain below the poverty line.

Even countries like India have challenges. Economic growth alone cannot eliminate poverty. Many of these countries need a proper welfare system. In 2014 India spent just 0.7 per cent of its GDP on social safety net programmes. By comparison, three years earlier Brazil had spent 2.4 per cent of its GDP on such programmes. India is cutting back on ill-targeted handouts, such as fuel subsidies, as the richest were benefiting far more from these than the poorest. Instead, it is thinking about a universal basic income; but that is still talk.

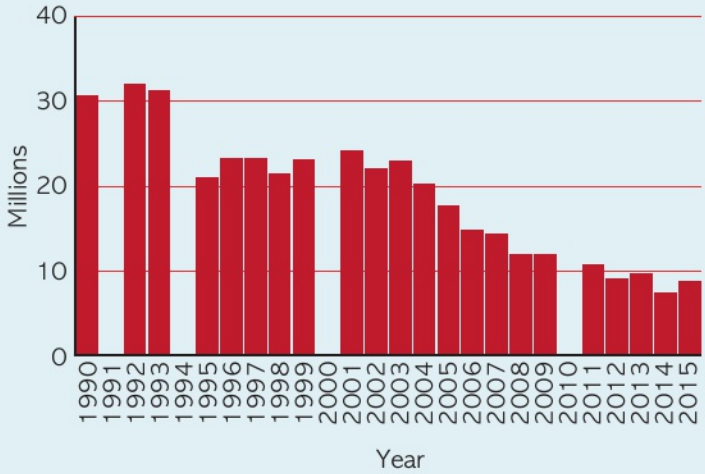
Absolute poverty has almost completely disappeared in one region after another – Europe, North America, Latin America and now East Asia. The big challenge now is to remove it from South Asia and Sub-Saharan Africa.

# EXAM PRACTICE

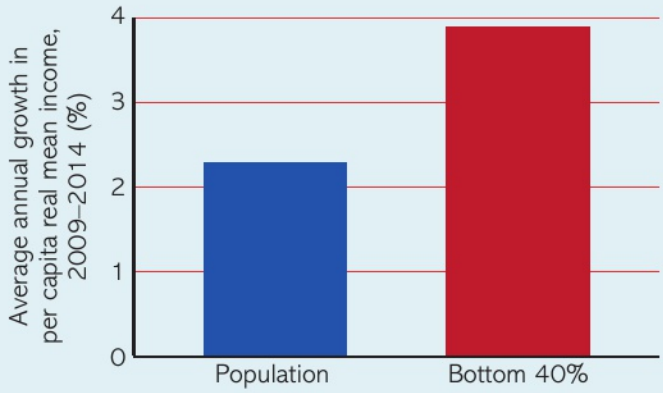
## POVERTY IN BRAZIL AND INDIA

SKILLS PROBLEM-SOLVING, REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

## BRAZIL'S POVERTY

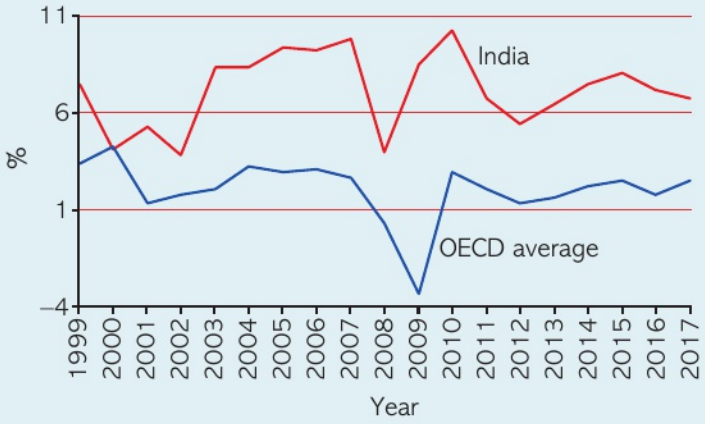



▲ Figure 2 Brazil: number of poor at $1.90 a day (2011 PP) (millions)




▲ Figure 3 Brazil: shared prosperity: 2009–2014 average annual growth in per capita real mean income (%)

## REDUCING POVERTY IN INDIA




▲ Figure 4 India's economic growth rate compared to OECD countries

| Year | Primary school completion rate (%) |
|---|---|
| 1974 | 42 |
| 1995 | 72 |
| 2003 | 80 |
| 2014 | 98 |

▲ Table 1 India: Primary school completion rate (% of relevant age group)

| | |
|---|---|
| 2003 | 0.708 billion US$ |
| 2016 | 2.588 billion US$ |

▲ Table 2 India: Net official development assistance and official aid received (constant 2015 US$)

## EXTRACT A: ABSOLUTE POVERTY IN INDIA

Between 2004 and 2011, poverty in India declined sharply from 38.9 per cent to 21.2 per cent at the international poverty line ($1.90 PPP/day). High economic growth, a rapid rise in rural wages, and increased non-farm activity, especially in construction, were some of the main drivers of poverty reduction. However, despite the success, India still has a long way to go. In 2011, the latest year for which consumption expenditure data is available, one in five Indians was poor – a total of nearly 270 million people.

Between 2005 and 2012, India achieved its fastest rate of economic growth in history – averaging 8.5 per cent per year. The annual consumption per capita growth of the bottom 40 per cent of the population was 3.2 per cent per annum in the period 2004 to

2011. However, this growth was slower than the growth in consumption for the entire population.

A report by the McKinsey Global Institute in 2014 says that despite rapid GDP growth, the majority of India's labour force remains engaged in low productivity activities. Many of the very poor receive most of their income from agriculture. A faster shift of labour from farm to non-farm jobs (matching China's pace) could have lifted many millions more out of extreme poverty. Increasing the number of jobs in manufacturing, construction and labour intensive services, such as tourism and retail trade, can help lower skilled workers move out of farm jobs into more productive sectors.

## EXTRACT B: INDIA DEBATES THE CASE FOR A UNIVERSAL BASIC INCOME

Over a fifth of its population lives below the poverty line. A scheme outlined by the chief economic advisor to the Indian government in 2017 would cut that figure to less than 0.5 per cent. If the government gave about $9 a month to all adult Indians this would cost 6–7 per cent of GDP. The complex welfare schemes currently used cost 5 per cent of GDP.

Giving people cash would be far better than today's system of handing out welfare in kind. The large number of schemes in place for Indians to claim subsidised food, fuel, gas, electricity and so on are inefficient and corrupt. For example, over 35 per cent of the richest 1 per cent of Indians benefit from subsidised food to which they were not entitled. Worse, 27 per cent of the poorest fifth of the population are not receiving subsidised food, even though they are entitled to it.

Is the universal basic income scheme affordable? Central government tax revenues are very low at 11 per cent of GDP. If the Indian government collected more taxation, then it might be possible to fund this scheme.

Source: India debates the case for a universal basic income, © 2017, Used with permission from The Economist Newspaper Limited

Q

1 From the data given in Figures 2 and 3, which one of the following is most likely to have occurred in Brazil between 2009 and 2014? **(1 mark)**
   (a) There was a downward trend in the number of people who live in absolute poverty but relative poverty rose in Brazil
   (b) Both absolute and relative poverty fell
   (c) The richest 60% of the population experienced a fall in their real incomes.
   (d) Both absolute and relative poverty increased

2 Read Extracts A and B and answer the following:
   (a) Use the data in Table 2 to calculate the percentage change in real net official development assistance and official aid received by India between 2003 and 2016. **(2 marks)**
   (b) Explain what is meant by the term 'absolute poverty' (Extract A title). **(4 marks)**
   (c) With reference to Extract A, analyse the likely effect on poverty in India of a shift in the economic structure away from agriculture towards manufacturing and services. **(6 marks)**
   (d) With reference to Extract B, examine the likely impact on absolute and relative poverty in India, if the Indian government replaces its current welfare system with a universal basic income. **(8 marks)**
   (e) With reference to the information provided, discuss the likely impact on poverty in a developing country, such as India, of rapid economic growth. **(14 marks)**

3 Since the 1980s, the proportion of people in Asia living in absolute poverty has fallen significantly but relative poverty has increased. Evaluate factors which may have caused these changes in absolute and relative poverty. **(20 marks)**

**EXAM HINT**

For Question 2d, remember to define the terms 'absolute poverty' and 'relative poverty' carefully. Make sure you use the extract carefully to support your reasoning. Evaluate by considering to what extent poverty levels may change. What might they depend on?

**EXAM HINT**

For Question 2e, use any relevant information in the extracts and data to support your answer. Make sure you consider both absolute and relative poverty. Consider whether economic growth is creating the types of jobs which will pay workers higher wages – this might link with your knowledge of wage determination. Are there some causes of economic growth which will have a bigger impact on poverty reduction?

# 33 INEQUALITY

UNIT 4
4.3.4

## LEARNING OBJECTIVES

- Understand the distinction between wealth inequality and income inequality
- Understand how inequality is measured, including the Lorenz curve and the Gini coefficient
- Understand the causes of inequality in income and wealth within and between countries
- Understand the impact of inequality on enterprise, incentives, savings, education, migration and life expectancy
- Understand the impact of economic change and development on inequality
- Understand the significance of the free market economy (capitalism) for inequality

## GETTING STARTED

Do you think there are large differences in wages and incomes for citizens of your own country? What factors do you think explain this? Using the internet, see if you can find any information about income distribution in your country – has it increased over recent years or reduced?

## INCOME

LINK Student Book 1, Chapter 32

Income is a flow concept, as explained by the circular flow of income model discussed in Year 1 of this course. In a market economy, how much income an individual receives is based on the forces of supply and demand; individuals receive different incomes based on their ownership of the factors of production in the economy.

The factors of production are land, labour, capital and enterprise. Ownership of these factors of production will generate income in the form of rent, wages, interest and profits. For example, individuals might own a house or office building from which they receive rent. They might own a business, from which they receive profit. If they own shares in a company, they will receive dividends (a share of the profits). For most people, their main income comes from their labour. By hiring themselves out to firms, they receive an income. The amount they receive will be based on the wage rate or salary they earn.

Income inequality refers to the unequal distribution of income between individuals.

## WEALTH

Wealth is a stock concept. Individuals own the stock of land, labour, capital and enterprise used to produce goods and services. Wealth for an individual can take a number of forms:

- Property wealth is the value of houses together with any commercial property that an individual might own, such as farming land and commercial buildings.
- Physical wealth is the value of physical objects apart from property. This includes personal items, such as antiques and furniture, as well as cars.
- Financial wealth is the value of monetary assets. These include personal savings, such as money saved in the bank or building society, and stocks and shares.
- Private pension wealth is locked up in pension funds. These could be pension funds linked to an occupation, such as teachers' pensions or doctors' pensions, or they could be personal pensions. In developed countries most individuals plan for their retirement by contributing to private pension schemes. This means when they retire, the wealth built up will generate an income. Private pension wealth is a form of personal savings.

In a market economy, the value of wealth is determined by market forces. For example, shares in one company will be priced differently from shares in another company.

Wealth inequality refers to the difference in the value of the stock of assets owned by individuals. Wealth is accumulated in a number of different ways. It can be built up through saving rather than consuming out of income. Wealth can increase through an increase in asset prices, like an increase in the price of a house or an increase in share prices. Wealth can also be passed on, mainly from parents to children, through inheritance when an individual dies. These different ways of accumulating wealth can explain the main causes of inequality of wealth between individuals.

Wealth inequality will also create income inequality between individuals. This is because income can be generated from wealth. For example, owners of property can earn an income from renting out their property. Owners of shares will receive a dividend. Wealth in the form of savings will earn interest.

## MEASURING INEQUALITY

One common way to measure inequality in income is to use a **Lorenz curve**. On the horizontal axis in Figure 1 the cumulative percentage of households is plotted, while the vertical axis shows cumulative percentage of income. The straight 45° line shows a position of total equality. For instance, the line shows that the bottom 20 per cent of households receive 20 per cent of total income while the bottom 80 per cent of households receive 80 per cent of income. Hence, each 1 per cent of households receives 1 per cent of income and there is complete equality of income.

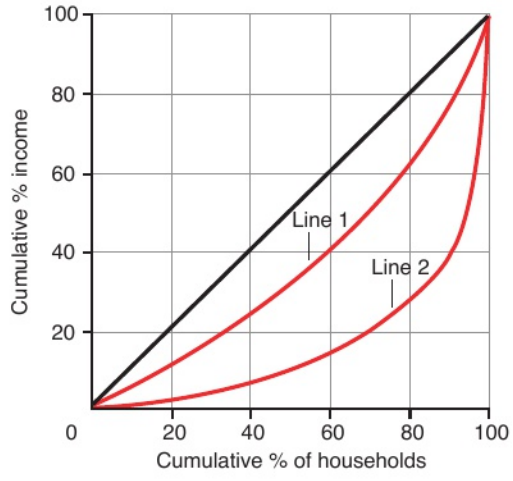
Line 1 shows an income distribution which is relatively equal. The bottom 20 per cent of households receive 10 per cent of income. This means that they receive half the average income. The top 10 per cent of households (between 90 and 100 on the horizontal axis) receive 20 per cent of income (from 80 to 100 on the vertical axis). So they receive twice the average income.

Line 2 shows a very unequal society. The bottom 50 per cent of the population receive only 10 per cent of income. Therefore, half of all households receive only one fifth (10 ÷ 50) of average income. The top 10 per cent of income earners, on the other hand, earn 60 per cent of all income (from 40 to 100 on the vertical axis). That means the top 10 per cent earn six times the average income.

**FIGURE 1**

**Lorenz curves**

The Lorenz curve shows the degree of inequality of income in a society. The further the curve is from the line of equality (45° line), the greater the degree of inequality.




These two examples taken together show that the further the Lorenz curve is from the 45° line, the greater the income inequality in society.

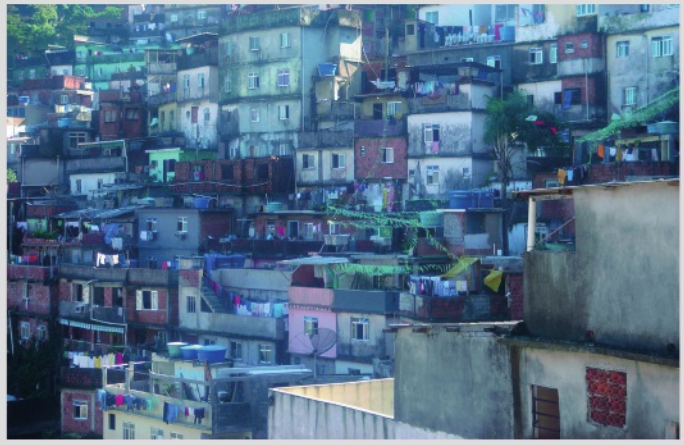
One statistical measurement of the degree of inequality is the **Gini coefficient**. Mathematically, it is the ratio of the area between the 45° line and the Lorenz curve divided by the triangle representing the whole area under the 45° line. It has values between 0 and 1. The higher the Gini coefficient, the more unequal the distribution of income. If every person has equal income, the Gini coefficient is 0. There is perfect equality of income. If the Gini coefficient is 1, then one person has all the income while everyone else has no income. Sometimes the Gini coefficient is measured as an index out of 100. The **Gini index** is simply the Gini coefficient multiplied by 100.

In the same way, a Lorenz curve can be used to show the degree of wealth inequality in a society. On the horizontal axis, the cumulative percentage of households is plotted, while the vertical axis shows cumulative percentage of wealth (rather than income). The Gini coefficient of wealth can also be calculated in the same way as above. The higher the Gini coefficient of wealth, the more unequal the distribution of wealth.

## ACTIVITY 1

SKILLS PROBLEM-SOLVING, ANALYSIS, REASONING

### CASE STUDY: COMPARING INCOME INEQUALITY



| Year | Lowest 20% | Second 20% | Third 20% | Fourth 20% | Top 20% |
|---|---|---|---|---|---|
| 2001 | 2 | 6 | 10 | 18 | 64 |
| 2015 | 3 | 8 | 13 | 20 | 56 |

▲ **Table 1: Household income share in Brazil: quintile groups of households**

1 Construct two Lorenz curves for Brazil from the data in Table 1.
2 Has income distribution become more equal or less equal for Brazil over this period?

# CAUSES OF INCOME INEQUALITY WITHIN COUNTRIES

Income inequality within countries has risen in many countries since the 1980s. In China, India and Russia, the rise in inequality has been very steep, while in most European countries it has been less extreme.

Income inequality within countries tends to be higher in developing countries than developed countries. Latin America, the Caribbean, and Sub-Saharan Africa have the highest levels of income inequality. Although the Latin American Gini coefficient has fallen over the last decade or so, it still remains one of the most unequal regions in the world.

General causes of change in relative poverty, and therefore changes in inequality, were explained in the previous chapter. The following factors explain the main reasons why income distribution has changed within many countries in recent decades.

## THE IMPACT OF GLOBALISATION

Increased inequality in some developed countries has been blamed on globalisation. The wages of unskilled workers in the United States and other advanced economies are likely to have been depressed as a result of globalisation as these workers are competing more directly with an abundance of unskilled workers in poorer countries; in contrast, skilled workers in emerging economies are scarcer. This means wage differentials between skilled and unskilled workers are likely to have widened in many advanced economies. Immigration of unskilled labour in some economies also puts downward pressure on wages for those on low incomes.

**LINK** Student Book 2, Chapters 21 and 22

In general, globalisation might be expected to reduce inequality in developing countries as relatively unskilled workers are more in demand to produce goods demanded in the global market. This should push up their wages. However, globalisation may also increase inequality. For example, in FDI-recipient developing countries it is likely that transnationals will pay higher wages than local wages. An OECD report found that average wages paid by foreign transnationals are 40 per cent higher than wages paid by local firms.

## TECHNOLOGICAL ADVANCES

Technology is often blamed for creating a skill premium in wages. Automation is increasingly destroying old jobs and creating new ones. There is an increasing need for skilled workers, as many low skilled jobs have been replaced by machines. This is causing growing wage differences between skilled and unskilled workers. It also means that those individuals with educational advantages, for example those with more years in education or who attend schools with high quality teachers, particularly gain.

## EDUCATION, TRAINING AND SKILLS

Differences in access to education can drive rising or high inequality in economies. Education and training increase an individual's productivity and make them more skilled. Skilled labour is more scarce than unskilled labour. As a result, wage differentials exist and can increase between skilled and unskilled workers. The earnings of those with certain qualifications will also increase more than others over time, as demand and supply of labour change in individual labour markets.

## TYPES OF JOB

Since the mid-1990s, more than half of the new jobs created in OECD countries have been non-traditional jobs. These are part-time and short-term work as well as self-employment. There is often less employment protection for workers in these jobs, as well as fewer hours and more limited access to training. In many developed economies, recovery from the Global Financial Crisis meant jobs were created, but underemployment, where people work fewer hours than they would want or do a job which does not use all of their skills, grew and the use of zero-hour contracts increased. As a result, income inequality has increased in some OECD countries in recent times.

In emerging economies, many people work in the informal sector, which is where economic activity takes place but is not recorded in national income statistics. Informal jobs have no written contracts and little in the way of employment protection. These jobs tend to pay less than formal jobs, offer little in the way of training and promotion and are very unpredictable. An individual may suddenly have no income with no notice. This means wide differences can exist between earnings of those in the formal employment sector and those who work in the informal sector.

## LABOUR MARKET DEREGULATION

Deregulation of labour markets is the process of removing government controls from labour markets. In general, this would be expected to increase income inequality. For example, new laws in an economy may weaken trade unions, reducing their wage negotiation influence, or laws may be passed to abolish minimum wages in an economy, widening income distribution.

## TAX AND WELFARE BENEFITS

The tax and welfare system of an economy will affect differences in income between the rich and the poor. In OECD countries, the tax and welfare system is often designed to make the distribution of income more equal. Those on a higher income usually pay a higher proportion of their income in tax. Those on very low incomes or with no income receive welfare benefits which are designed to prevent their incomes falling below a minimum level.

An OECD income inequality report in 2016 said that redistribution through income taxes and cash transfers, such as unemployment benefits, reduced income inequality by about 27 per cent on average across OECD countries.

However, governments may introduce new tax rates or introduce new taxes which mean those on high incomes pay a smaller share in tax than before. In this case the tax system has become less progressive, so income inequality will widen. Equally, a government may lower its welfare benefits, which will also increase inequality. According to an OECD report, across the OECD, average top income tax rates fell from 66 per cent in 1981 to 41 per cent in 2008. This would increase inequality.

Developing economies often have higher income inequality because their tax systems are underdeveloped and governments cannot afford an extensive welfare system.

## ECONOMIC SYSTEMS

In China and Russia, two former communist economies, and India, a highly regulated economy, inequality increased steeply once markets were allowed to allocate resources. Wages set by supply and demand caused widening wage differentials between individuals. According to the World Inequality Report 2018, in Russia 'the "shock therapy" of privatisation, capital flight, and the rise of offshore wealth [assets held somewhere other than the investor's home country], along with high inflation and a new market environment, have contributed to the rise in top Russian incomes since 1989'. For example, the share of the top 1 per cent shot up from around 25 per cent to over 45 per cent of national income.

## THE RISE OF THE VERY RICH – THE TOP 1%

There has been a widening of income distribution across many advanced economies and some developing economies. Recent analysis on the growth of inequality has focused on the share of national income of the top 10 per cent, 1 per cent and 0.1 per cent. For example, the United States has experienced a dramatic rise in the share of the top 1 per cent. Between 1980 and 2016, the share of the top 1 per cent nearly doubled to 20 per cent, whereas the share of the bottom 50 per cent roughly halved to 13 per cent. According to the economist Branko Milanovic, there are reasons why inequality seems to be increasing in many countries.

- Firstly, in rich countries, capital income (income generated from wealth rather than labour) is taking up a rising share of total income. Capital income is concentrated in the hands of a few very rich people.
- Secondly, those who tend to earn high incomes from labour also earn high incomes from capital. So, again, income is very concentrated among the few.
- Also driving inequality are social factors – the educated and rich marrying each other.
- Lastly, political influence from the rich leads to favourable tax rules which benefit the rich. This means the drive for redistributive policies falls.

# CAUSES OF WEALTH INEQUALITY WITHIN COUNTRIES

Rising wealth inequalities within a country are related to rising income inequalities. This is because those on relatively higher incomes find it easier to build up their wealth: they can afford to save more of their disposable income and they can get higher rates of return.

Inheritance is also a major factor. The easier it is to pass on wealth to relatives during life and at death, the greater the degree of wealth inequality is likely to be. Inheritance taxes play a part in this.

Those owning some assets may also benefit more than others. For example, if the value of shares on the stock market falls, owners of these shares will experience a fall in their wealth. Similarly, high house price inflation will benefit those who already own a house – their wealth will rise; but this may make houses less affordable for younger people in the population. So there might be a growing wealth inequality between different age groups.

Rising wealth inequality might also be caused by less progressive wealth taxes on the value of assets which individuals own.

# CAUSES OF INCOME INEQUALITY BETWEEN COUNTRIES

GNI per capita (average incomes) varies significantly between countries. Inequality between countries has fallen in recent decades. This was a period of rapid globalisation and high growth, particularly in China and India. Multiple factors explain income inequality between countries.

### DIFFERENCES IN RESOURCE ENDOWMENT

The maximum output which an economy can produce will depend upon its resource endowment – the quality and quantity of factors of production (land, labour, capital and enterprise) within the economy. These differ between countries, so most causes of inequality between countries can be explained by this.

- Some countries have a natural resource advantage, for example, oil or copper.
- The quality of human capital differs greatly between advanced and developing economies. Most children in advanced economies will be in school or training until at least 18 years old. In developing countries, the completion of secondary school education and, in some cases, primary education can be very low.
- In some countries, a high proportion of skilled labour is lost due to emigration.
- Civil war in some countries will destroy physical and human resources.
- The lack of a fully functioning banking sector in some countries may also limit the availability of capital – this limits enterprise.
- The degree of technological change in a country will affect the productive capacity of an economy.

### DIFFERENCES IN SECTORAL SHARE OF GDP

The share of different economic sectors is also likely to cause income differences between countries. Generally, countries are at a lower stage of development when agriculture makes up a higher percentage of GDP, compared to manufacturing and services. This is because parts of the agricultural sector often have low levels of productivity. Low levels of productivity will limit economic growth, so incomes will not rise as quickly as in other countries.

### DIFFERENCES IN INFRASTRUCTURE

Infrastructure differs significantly between countries. Poor infrastructure, such as problems with electricity supply or poor transport links between places, will reduce production, raise costs and limit supply-side growth.

### DIFFERENCES IN THE AMOUNT OF FOREIGN DIRECT INVESTMENT

As discussed in Chapter 21, FDI often creates a positive impact on growth for recipient countries.

### THE DEGREE OF TRADE LIBERALISATION

Some economies benefit from being members of trading blocs. Membership of a trading bloc should reduce import costs and promote exports. Both will cause actual growth. At the same time, globalisation creates both winners and losers. Much of Asia has benefited from trade liberalisation because these economies have a price competitive advantage compared to advanced economies, due to their lower wage costs. This has helped to reduce the relative income gap between these economies.

### DIFFERENCE IN GOVERNMENTS

Governments which have well-managed macroeconomic policies over time are likely to achieve higher growth rates. Unstable governments (for example, those made up of weak coalitions) could reduce business confidence and hence limit FDI.

Growth and development are fostered by good governance and the rule of law. Where the rule of law is weak, there is often a lack of effective property rights. Individuals and businesses are unable to use the law to defend their ownership of assets. The result is lower investment and lower output. Individuals and businesses are less willing to buy machinery, build factories or establish brands if powerful individuals or organisations within the state can effectively steal those assets. Linked to this is corruption. Corruption in government will cause the misallocation of resources away from productive uses.

Too much bureaucracy and regulation can also be a problem. In some countries, it is very costly and time-consuming to set up a legal business because of the bureaucracy and regulation involved. Arbitrary application of tax laws can also deter business activity.

## CAUSES OF WEALTH INEQUALITY BETWEEN COUNTRIES

The average level of wealth held by individuals in a country will differ between countries. Individuals who live in less developed economies, with low incomes, will find it harder to build up their wealth compared to individuals in countries which have much higher average incomes. However, those in emerging economies that have experienced long periods of rapid economic growth will have seen faster rises in private wealth, so the gap will have narrowed with more advanced economies.

Some countries have also privatised many state-owned assets. For example, Russia, in its transition from a command economy to free market undertook large scale privatisation. Any country involved in a large privatisation programme will experience a rise in private wealth, so average wealth levels will rise.

Wealth taxes may also differ significantly between countries – both the types of wealth taxes used and the rates of these taxes. This will affect how much wealth can be built up over time by an individual and how much can be passed on to the next generation.

## THE IMPACT OF INEQUALITY

### ENTERPRISE

Some economists believe that greater inequality fosters greater enterprise. A certain level of inequality in a country may encourage and incentivise entrepreneurship. Entrepreneurs manage the factors of production and take risks. They are motivated by the profit incentive. Those who succeed expect to make a high return on their investment. If there was complete equality in an economy, there would be no personal incentive for enterprise. Therefore, if the tax and benefit system in an economy redistributed income and wealth significantly, the profit incentive would be lost and enterprise in the country might suffer.

However, some economists argue that greater inequality reduces enterprise. High relative poverty tends to create a cycle of low expectations, so many young people from disadvantaged families are less likely to fulfil their potential and become entrepreneurs of the future. High inequality might also mean some people with great ideas for new products are unable to set up in business because they cannot afford the start-up costs. Many entrepreneurs need their own stock of wealth, such as savings, to fund enterprise since access to credit may be limited and too expensive.

### INCENTIVES

Some inequality increases incentives to work. The decision to invest in education and training is partly motivated by the likelihood of higher monetary rewards; usually the expectation that being skilled and more productive will lead to higher wages. The profit incentive also applies to entrepreneurs and their willingness to set up businesses and innovate. These incentives drive economic growth.

However, if inequality is too extreme, this is likely to mean that many groups in society have no real opportunity to advance up the income scale. On average, they will not be able to access the same quality and quantity of education and health care as richer groups. This means most will not have the opportunity to progress. This creates low expectations and removes incentives; many workers will believe that they are stuck in low paid jobs.

### SAVINGS

Changes in inequality can impact savings in an economy. If income inequality falls because more income is being redistributed from the highest income earners to the lowest, the economy's savings ratio is likely to fall. This is because those on higher incomes tend to save a bigger proportion of their income. Those on high incomes have a high marginal propensity to save – they save a high proportion of their last $1 dollar earned. Redistributing the last dollars of income earned, from high income earners to low income earners, will therefore increase the marginal propensity to consume (MPC) in the economy.

However, the alternative view is that those on low incomes will save to invest if there are investment opportunities in the country. Inequality may not be a significant factor affecting the level of savings. There are many factors affecting savings; these were discussed in Student Book 1.

### EDUCATION

Inequality, particularly in developing countries, means many children still do not go to school or do not have many years in education. In many developing countries, this is due to the government's inability to finance education adequately. A report by the World Bank in 2017 talked about the global 'learning crisis'. The report found that despite more students in the developing world attending school, they are often learning little, due to a combination of corruption and poorly paid, badly trained teachers.

Income and wealth inequality also has an impact on education in developed economies. Although most children will attend the same number of years in school, the quality of education may differ. Many of the best state schools (those run by the government) exist in affluent areas. In these areas house prices or rental values are very high, so only rich children can live in these areas. The existence of private schools (those where parents have to pay fees) also means richer children often have access to better quality education. These schools may also create stronger social networks which makes it easier to get a 'top' job, such as becoming a barrister or doctor.

The above factors partly explain why the educational outcome for poorer children is often worse. This creates the 'poverty cycle' where, if your parents have a low level of educational achievement and your family is on a low income, it is more likely that the next generation will also be in relative poverty. However, many factors will affect this, and government policies can be designed to improve the performance of disadvantaged children.

## MIGRATION

Inequality between and within countries will affect which people choose to emigrate from a country and where they choose to emigrate to. The Migration Observatory at the University of Oxford has analysed what factors cause people to migrate to the UK and other OECD countries. For most international migration, wage and income differences between the origin country and the destination country seem to be the main factor.

For example, high youth unemployment rates in countries such as Spain, Italy and Poland, have incentivised some young people to seek jobs in the UK. Low income levels in many Eastern European countries has also provided an incentive for some people to leave these countries. Often it is only the relatively skilled or those with some income or savings who can afford to migrate.

The increase in income inequality in the UK has also created more incentives for higher skilled immigrants to the UK, since the monetary gains will be higher than emigrating to a country with greater income equality, even if the average national income is the same.

## LIFE EXPECTANCY

The United Nations reports that, in developing countries, children in the poorest 20 per cent of populations are still up to three times more likely to die before their fifth birthday than children in the richest quintiles. Women in rural areas in the majority of developing countries are still three times more likely to die while giving birth than women in urban centres. This data illustrates how income inequality, particularly if it causes absolute poverty, will reduce **life expectancy**. If economic growth is shared more equally, there should be less variation in life expectancy between different income and wealth groups.

Analysis also suggests that inequality can reduce life expectancy even in rich countries. According to research from the Economic Innovation Group think-tank, one in six Americans lives in a 'distressed community'. These are areas with a falling number of businesses in which the population has a low median income, low labour force participation, high levels of relative poverty and low educational achievement. This all leads to health problems. Mortality rates (or death rates) in distressed areas are 25 per cent higher than in prosperous districts, and mortality rates from mental health problems and substance abuse are 64 per cent higher. Inequality, through its impact on living standards and educational achievement, can drive unhealthy behaviours such as smoking, poor diet and physical inactivity. The impact on life expectancy will be worse if there is not universal health care provision.

## THE IMPACT OF ECONOMIC CHANGE AND DEVELOPMENT ON INEQUALITY

The Kuznets curve, developed by the economist Simon Kuznets in 1955, shows the predicted relationship between income per capita and income inequality.

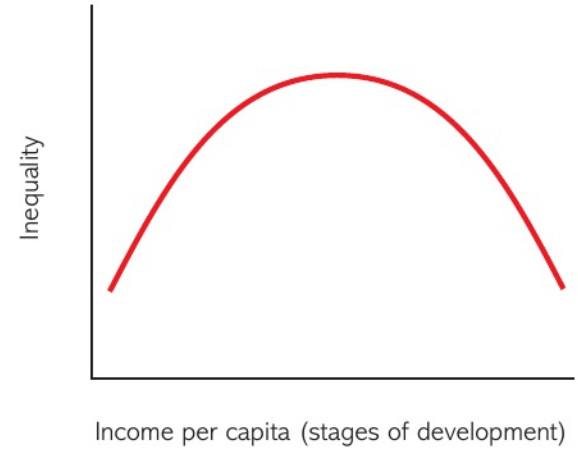
According to the Kuznets curve, inequality rises in the early stages of development for an economy, but then falls. During the early periods of industrialisation, as labour starts to move from agriculture to manufacturing, inequality rises as some labour becomes increasingly more productive. This is because wage differences between those employed in agriculture and industry widen. This will then reach a peak. Beyond this phase of development, inequality starts to fall. This fall in inequality will be caused by better education, productivity differences between sectors in the economy narrowing and a growing demand for more income redistribution.

Up until 1980, this relationship seemed to be broadly correct. However, the widening of income distribution across many advanced economies and some developing economies has led some to question the relationship. According to the economist Branko Milanovic, there are reasons why inequality seems to be increasing in many countries. This was discussed earlier in this chapter.

There are many measures which a government might use to promote growth and development. Each is likely to have a different impact on inequality. Equally, every government will make its own decisions about how much it redistributes income and wealth using the tax and benefit system. So in practice it is often difficult to predict the impact economic change and development might have on inequality for a particular country.

**FIGURE 2**

**Kuznets curve**



## THE SIGNIFICANCE OF CAPITALISM FOR INEQUALITY

A free-market economy or capitalist economy is an economic system that resolves the basic economic problem mainly through the market mechanism. The price of labour (wages) will be determined by market forces. In a capitalist system, choices about production and distribution (who gets what share of income and wealth) are determined by the market. The role of the state is to uphold property rights through the rule of law and to provide goods which the market mechanism would otherwise not provide.

In a capitalist economy, land and capital are owned by private individuals rather than the government, sometimes called the state. The working class sell their labour to the owners of resources in exchange for wages. Typically, the owners will have more wealth and income than the workers in a capitalist system.

The market pays no attention to equality. In a capitalist society, those who earn high incomes can build up their wealth. This wealth can then be inherited by the next generation, which helps them in turn to earn high income on this capital. High wealth also increases access to the best education, which in turn leads to higher incomes. Therefore, both income and wealth inequalities are likely to become very wide.

In 2013, the French economist Thomas Piketty published a book analysing how capitalism has affected income and wealth distribution. He analysed data since the beginning of the industrial revolution in Western Europe.

- Industrialisation slowly increased wages for workers, but pre-1914 economies were very unequal. In 1910, the top 10 per cent of European households' share of total wealth was almost 90 per cent. The income flows from rent and dividends, which come from the ownership of capital, contributed to high inequality.
- This system persisted until the chaos brought about by the Great Depression and the first and second world wars. Wealth then fell dramatically from this 'rich' group because of bankruptcies, physical destruction of capital, inflation and the growth of the tax and welfare state. There was then a period of more equal distribution of income and wealth.
- Since the 1970s, the ratio of wealth to income has increased along with rising income inequality. The rise of wealth being concentrated in the hands of the few seems to be back.

His conclusion is that the concentration of wealth among the few does not disappear naturally. Since only high economic growth or government intervention would reduce the dominance of wealth, Piketty recommends a global tax on wealth to prevent soaring inequality. However, critics argue that wealth today is very different from wealth in the past. For example, much wealth today is created through work. They also say that wealth becoming even more concentrated than it already is may be unlikely. They argue the more capital there is, the lower the return should be.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: INEQUALITY IN CHINA

Research by Martin Ravallion and Shaohua Chen of the World Bank concluded that China's Gini index rose from 31 in 1981 to 44.7 in 2001, a period of rapid industrialisation. Since 2003, Beijing's National Bureau of Statistics has published an annual figure which suggests that the Gini index continued to rise until 2008, peaking at 49.1. Since then it has trended downwards, reaching 46.5 in 2016.

Some analysts have suggested the increased equality in recent years is due to large-scale investment in education and healthcare and 'significant **subsidy** programmes' for poorer and rural areas. Since 2013, spending on education and healthcare has risen by at least 10 per cent a year.

Another factor is the faster rise in income in the poorer regions of the economy. An advisor at the World Bank said 'wages have risen so much in the traditional manufacturing belt on the coast that manufacturing activity began to move inland into poorer regions', raising wages in lower income areas. Minimum wages over the last decade have also risen by more than 10 per cent every year.

1 How is the Gini index calculated and what does it measure?
2 Outline the factors which are likely to have caused inequality to rise in China between 1981 and 2008, and then fall.

## CHECKPOINT

1 Sketch a Lorenz curve – make sure you label the axes correctly.
2 How is the Gini coefficient calculated?
3 Explain three causes of income inequality within an economy.
4 Explain three causes of income inequality between countries.
5 Explain one reason why inequality may create unequal educational opportunities.
6 Explain the reason why rising income inequality is likely to cause rising wealth inequality.
7 Explain why an economy with rising income inequality may have more variation in life expectancy between different income groups.
8 Why is inequality certain to occur in a capitalist economy?

## SUBJECT VOCABULARY

**Gini coefficient** a statistical measure of inequality of income; its value ranges from 0, where there is perfect equality of income, to 1 where income is highly unequal with one person having all the income and everyone else having no income

**Gini index** the Gini coefficient times 100

**life expectancy** number of years a newborn infant could expect to live typically within a country, assuming patterns of death remain as they are

**Lorenz curve** a graphical representation of the degree of income or wealth inequality in society

**subsidy** a grant that lowers the price of a good, usually designed to encourage production or consumption of a good

## THINKING LIKE AN ECONOMIST

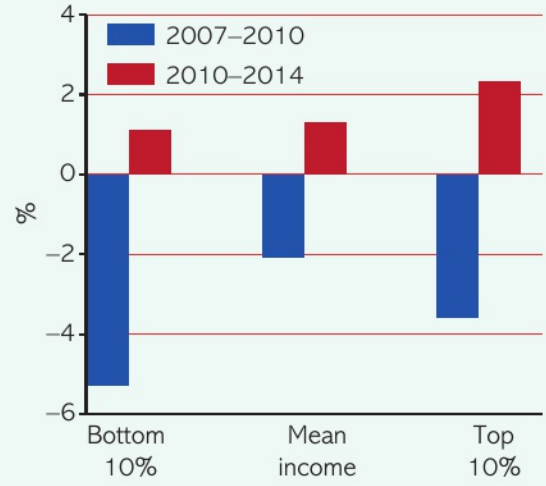
### HAS ECONOMIC RECOVERY BENEFITED EVERYONE ACROSS THE OECD?

An OECD report in 2016 analysed the impact of the Global Financial Crisis on different income groups across OECD countries. It also analysed how the economic recovery from 2010 affected income inequality; to what extent did everyone gain?

Figure 3 shows that at the height of the Global Financial Crisis, the mean income fell by an OECD average of 2.1 per cent. Real income of the top 1 per cent fell by more (3.6 per cent), but the biggest losers were the poorest 10 per cent who experienced a fall in real income of 5.3 per cent .

The economic recovery from 2010 did increase average incomes, but again, the income of the poorest 10 per cent saw their real incomes rise more slowly than the rest. Top incomes increased by 2.3 per cent, middle incomes improved by 1.3 per cent but for the bottom 10 per cent, income growth was only 1.1 per cent. Top and middle incomes recovered much of the real income lost during the crisis, but the bottom 10 per cent still had real incomes below their pre-crisis level.

Across the OECD countries, the average Gini coefficient of household disposable income reached 0.318 in 2014, compared to 0.315 in 2010. This was the highest Gini coefficient on record for the OECD since the mid 1980s.




▲ **Figure 3 OECD: Changes in average real income, by income group, 2007–2010 and 2010–2014**

Source: Income inequality remains high in the face of weak recovery, © 2016, Used with permission from OECD

The rise in income inequality after the Global Financial Crisis can be explained by a variety of factors.

Firstly, high long-term unemployment experienced in some OECD countries, such as Hungary, can reduce labour income growth, particularly at the bottom of the distribution. Wages will be held down

if there is a large group of available workers seeking certain types of job.

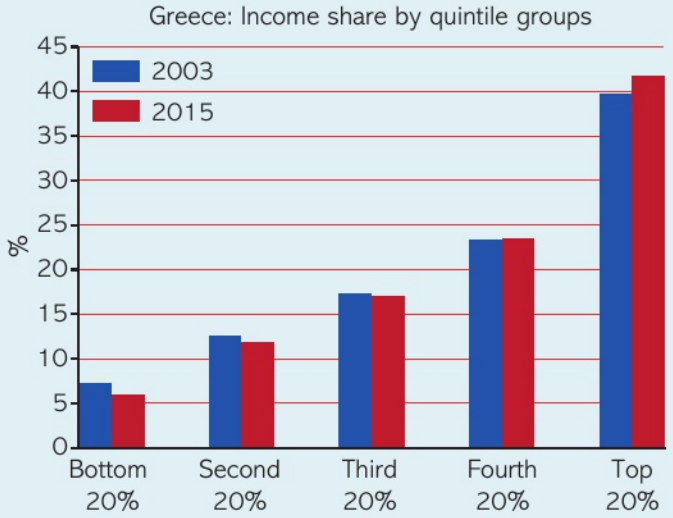
Redistribution of income, via the use of welfare payments and taxation, also weakened after the crisis for most OECD countries. For example, during the crisis the US government used reflationary fiscal policy (increasing government spending and reducing taxes) to try and boost aggregate demand. As part of this, in 2008/09 unemployment benefits could be claimed for longer. However, the old rules were put back in place in 2011. In some countries, fiscal consolidation measures (government attempts to reduce government spending and/or increase taxes) were introduced to reduce national rising budget deficits. In Hungary, guaranteed minimum incomes and unemployment benefits were tightened.

Lastly, income inequality in the OECD has increased partly because some job creation has been in low quality jobs, with poor working contracts, such as zero-hour contracts, and job insecurity. This will have more impact on low earning households and contribute to rising inequality.

# EXAM PRACTICE

## INEQUALITY RISES

SKILLS PROBLEM-SOLVING, INTERPRETATION, CRITICAL THINKING




▲ Figure 4 Greece: Income share by quintile groups

| Income group | Total real per adult income growth |
|---|---|
| Mean income | 65% |
| Bottom 50% | 87% |
| Middle 40% | 74% |
| Top 10% | 42% |
| Top 1% | 5% |

▲ Table 2: Income growth and inequality in India, 1951–1980

### EXTRACT A: TECHNOLOGY, EDUCATION AND INEQUALITY

A World Bank report in 2018 said that income inequality within some EU countries was rising, despite the gap between poorer and richer EU countries closing.

Technological advances have increased the number of creative and analytical jobs by 15 per cent over the last 15 years, but manual jobs have fallen by the same amount. 'Technological change is delivering more jobs for skilled workers in booming urban areas, but shutting out less educated employees outside main cities.'

Educational failures have made it hard for those who have lost jobs to take advantage of any opportunities. In Greece, Bulgaria, Romania, Malta and Slovakia, more than 30 per cent of 15-year-olds lacked the ability to read and write to a basic level.

Rising inequality itself can make it hard for a country to raise educational standards. A report written by economists in the USA in 2014 noted that the poorest households' graduation rates increased by only 4 per cent between the generation born in the early 1960s and those born in the early 1980s. In contrast, the graduation rates for the wealthiest households increased by almost 20 per cent over the same period.

## EXTRACT B: INDIA'S RISE IN INEQUALITY

In the late 1970s India was a highly regulated, centralised economy with socialist planning. However, from the 1980s, a large set of liberalisation and deregulation reforms was introduced. India moved towards a free-market economy. Economic reforms continued from 1991 to 2000, placing the promotion of the private sector at the heart of economic policies.

The tax system also changed in this period, with top marginal income tax rates falling from a high of 97.5 per cent in the 1970s to 50 per cent in the mid-1980s.

Between 1980 and 2014, GDP per capita (at constant 2010 prices) in India rose from $390 to $1645. According to new research from economists including Thomas Piketty, the top 1 per cent of earners received nearly a third of all the extra income generated by economic growth between 1980 and 2014. The well-off are ten times richer now than in 1980; those at the median have not even doubled their income. India's Gini coefficient in 2011 was estimated by the World Bank to be 0.495.

Middle earners in countries at India's stage of development usually take more of the gains from growth. However, when liberalisation came in the early 1990s, only a few were able to benefit. India's poor education system means millions of adults remain unskilled. Many work in small enterprises, operating informally. These 'employ' 93 per cent of all Indians.

**1** Which one of the following can be deduced from Table 2? **(1 mark)**

(a) Average living standards fell in India between 1951 and 1980.

(b) Between 1951 and 1980, only 5% of the top 1% income group experienced a rise in real incomes.

(c) Between 1951 and 1980, income inequality narrowed.

(d) Between 1951 and 1980, income inequality widened.

**2** Read the information provided and answer the following questions.

(a) What were the income shares held by the first quintile in Greece for 2003 and 2015 (Figure 4)? **(2 marks)**

(b) Explain what is meant by the 'Gini coefficient' (Extract B). **(4 marks)**

(c) With reference to Extract A, analyse the likely impact of inequality on education. **(6 marks)**

(d) With reference to Extract B, examine the likely impact of further economic change and development on India's inequality. **(8 marks)**

(e) With reference to the information available, discuss the likely causes of rising income inequality within India and within some EU countries. **(14 marks)**

**3** Evaluate the economic impact of a significant increase in income inequality within a country. **(20 marks)**

**EXAM HINT**

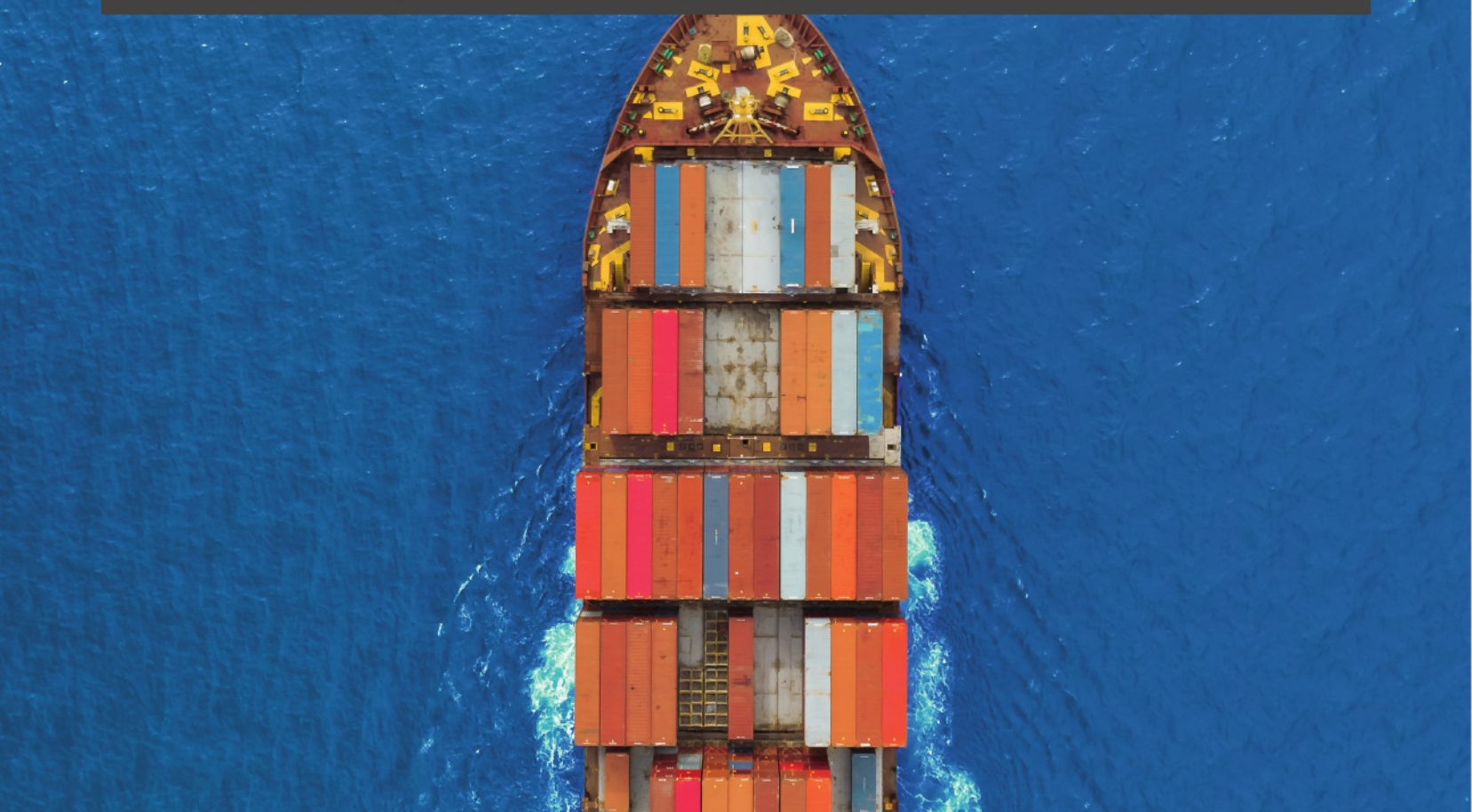
For Question 2d, what has been the recent trend in income inequality in India? To what extent will this trend continue?

**EXAM HINT**

For Question 3, analyse the impact on a wide range of issues, such as life expectancy, migration, incentives, savings etc. It is useful to link these with living standards and economic development where relevant. To what extent will the effects be significant?

# THE ROLE OF THE STATE IN THE MACROECONOMY

Government spending (public expenditure) is often a significant proportion of a country's GDP. This section discusses this and then moves on to taxation. The distinction between types of taxes is explored as well as the economic effects of changes in tax rates. What affects the size of fiscal deficits and national debt is developed. Government borrowing and debt have been a priority issue for many governments in the world, so this section looks at the significance of borrowing and debt for governments. There is then a discussion of how governments use a range of policies to achieve specific objectives and measures they can use to control transnational companies. The impact of policy changes and problems facing policy makers are also discussed.



# 34 PUBLIC EXPENDITURE

UNIT 4
4.3.5

## LEARNING OBJECTIVES

- Understand the distinction between capital expenditure, current expenditure and transfer payments
- Understand the reasons for the changing size and pattern of public expenditure in an international context:
  - changing incomes
  - changing age distributions
  - changing expectations
- Understand the significance of differing levels of public expenditure as a proportion of GDP on:
  - productivity and growth
  - crowding out
  - levels of taxation

## GETTING STARTED

Use the internet to find out about the 'Nordic model' and then contrast that with the more free market model found in the United States. Why is the size of the state larger under the Nordic model than in the US? What effects does it have on economic variables such as levels of taxation, productivity and growth, equality and happiness?

LINK Student Book 1, Chapter 30

## CAPITAL EXPENDITURE, CURRENT EXPENDITURE AND TRANSFER PAYMENTS

Total government spending is equal to current expenditure plus capital expenditure. This can be broken down as follows.

- **Capital government expenditure** is spending on investment goods. Examples are new motorways or roads, new schools, new hospitals or new street lights. These are items that will be consumed over a period of time longer than a year.
- **Transfer payments** are mainly welfare payments made to individuals, such as unemployment benefits and state pensions. They are payments by government for which there is no corresponding output. Hence transfer payments are not included in the measurement of GDP.
- Debt interest is interest paid on the National Debt by the government.
- **Current government expenditure** is general government final consumption plus transfer payments plus debt interest. General government final consumption is spending on goods and services that will be consumed within a short time, such as a year. Examples are the wages of teachers, or heating and lighting for a hospital.

Budgets can be analysed in terms of current and capital expenditure. A government can have a budget deficit just on its current expenditure. Not only is it not raising taxes and other receipts to pay for capital expenditure, it is not even covering its day-to-day expenditure. This is generally considered to be undesirable because it will have to borrow to pay for current spending. Tomorrow's taxpayers will have to pay for today's expenditure. However, it is considered reasonable to borrow money to pay for capital expenditure. Taxpayers in the future will benefit from capital expenditure made now. So, it can be argued, they should be made to pay their share of capital expenditure made now.

## REASONS FOR THE CHANGING SIZE AND PATTERN OF PUBLIC EXPENDITURE

The size of government spending is normally measured as a percentage of an economy's GDP or government spending per capita. Governments will have different views about how much the public sector should provide, in terms of goods and services and also social protection for individuals. Decisions about the size of public expenditure will be limited by the financial options available to a government (although not for a government which issues its own currency). The pattern of public expenditure, sometimes called the composition of government spending, is often referred to as public expenditure by function. For example, in the EU as a whole, social protection was the largest component of government spending in 2016. In the EU 28 countries, this totalled 19.2 per cent of GDP or 41.2 per cent of all government expenditure. The next biggest component was health spending. For most governments the composition of government spending includes:

- Social protection – this covers transfer payments such as unemployment benefits, benefits to those on low incomes, state pensions, benefits for the sick or disabled. It also includes direct in-kind provision of goods and services, such as free school meals.

- Health spending – this includes services provided by state health clinics and hospitals.
- Education – this includes government spending on primary, secondary and further education.
- Public order and safety – this includes spending on the police, prisons and fire service.
- Defence – spending on the army, navy and air force.
- Housing – this includes government spending on building new housing stock owned by the government and maintaining existing stock.
- Environmental spending – this includes spending on parks and environmental protection measures.
- Debt interest – this is the interest that the government has to pay on money it has borrowed in the past (the National Debt).

Over time and between countries, the level and pattern of government expenditure changes. Changes in income, changing age distributions and changing expectations are some of the main causes.

## CHANGING INCOMES

The lower the average income of a country, the lower is likely to be the percentage of GDP spent by the government. This is partly because lower-income countries lack a tax base (all the people who pay tax, and the total amount that they pay) to raise revenues to pay for government spending. Taxes such as income tax and VAT are difficult to administer, partly because in some countries the population density is very low in some rural regions. It is also easy to avoid in lower-income countries because the size of the informal economy is large. Even some transnationals will find ways to deliberately avoid paying tax. For all these reasons, tax revenue, as a proportion of GDP, is typically much lower for poor countries than for high income countries.

Changes in levels of GDP will also affect the size and pattern of public expenditure. In a recession, a period of negative economic growth, public expenditure as a proportion of GDP is likely to increase for two reasons.

Firstly, the government may deliberately choose to spend more. An **expansionary fiscal policy** injects money into the circular flow of income and is a policy tool used to try to get the economy out of a recession.

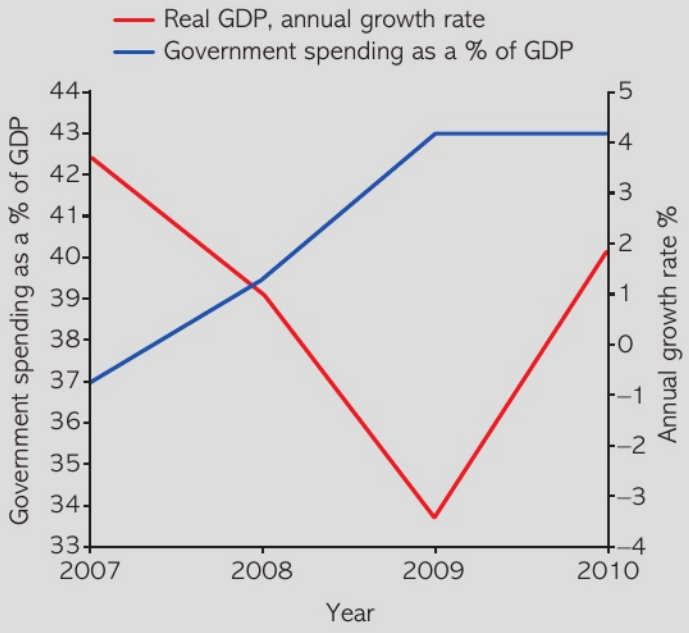
Secondly, the level of public expenditure is likely to increase because most economies spend some money on welfare payments. If GDP falls, unemployment is likely to rise. More people will be able to receive unemployment benefits, so spending on welfare payments will rise.

Even if government spending remains the same in a recession, the fall in GDP during a recession will mean government spending, as a proportion of GDP, will rise. Spending on social protection is also likely to become a greater proportion of government spending in a recession for most economies. However, this will be less true for low-income countries which have a very limited welfare state.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: CHANGING INCOMES AND PUBLIC EXPENDITURE




▲ **Figure 1 Public expenditure as proportion of GDP and economic growth rates in the USA during the Global Financial Crisis**

Source: OECD

**1** Why might public expenditure as a % of GDP rise during an economic downturn? Does the data suggest this relationship existed for the USA during the period of the Global Financial Crisis?

## CHANGING AGE DISTRIBUTIONS

For Europe and Japan, the next 30 years will see considerable pressure on governments to increase spending. This is because their populations are aging. With more elderly people in the population and fewer workers, demand for health care, pension payments and social care will rise at the same time as economic growth may fall because of fewer workers. Unless government spending as a percentage of GDP grows, rises in spending on the elderly will have to come from reductions in other areas of government spending.

Equally, in countries with a rising birth rate, there will be pressure on the government to spend more of

their budget on education, immunisation programmes to protect children from infections and a rise in general healthcare expenditure. New schools will need to be built and the government will have to finance the training and the wages of more teachers. Unless government spending as a percentage of GDP grows, increases in spending on education will create an opportunity cost on other components of government spending.

An increase in the size of the population will also put pressure on public services, so the size of government spending in terms of the amount of money spent, is likely to rise. Whether government spending rises as a proportion of GDP will depend on the age distribution of the population. If the population of working age has increased, then GDP will have risen too, so government spending as a proportion of GDP might remain the same.

## CHANGING EXPECTATIONS

The higher the income of a country, the more its citizens will demand higher-quality goods and services of the sort that are typically provided by government. Government provided goods and services are generally normal or luxury goods. Demand for these goods and services tends to be income elastic. As GDP rises, citizens demand better roads, better education and welfare benefits to guard against sickness, unemployment and old age. For example, technological advances in health care mean that more and more illnesses are now treatable. However, the additional nursing, the equipment and the drugs needed are all increasing the average cost of health care per person.

## OTHER FACTORS

Among rich developed countries, however, there are significant differences in the size of the state. In 2016, for example, the United States had government spending including transfer payments of 38 per cent of GDP. By comparison, for France, it was 56 per cent. These differences tend to reflect ideological differences about the role of the state and the role of the market.

**Resource efficiency** Some differences in views about the optimal size of the state focus on how resource efficiency compares between the public and private sector. If the inefficiency of government is greater than the benefits from correcting market failure, then government should be as small as possible. Governments around the world and over time will have different views on whether the public sector is more or less efficient than the private sector. This partly explains why the size of the state may differ significantly over time or between countries.

**The austerity debate** In the short term, some economies are still recovering from the effects of the financial crisis of 2007–08, which saw government spending rise at the same time as tax revenues fell. Some governments have chosen to react, or been forced to react, by cutting public spending through 'austerity budgets'. In some cases, the amount of interest paid on the national debt has increased, although for countries such as the UK and the USA, this increase has been relatively small because interest rates have fallen to historical lows. A few governments have even been able to borrow money at negative rates of interest. So, with the same value of national debt, changes in the rate of interest paid on this debt will change the pattern of public expenditure for economies. Where fiscal deficits and national debts as a percentage of GDP remain high, however, there will be limits on any growth in public spending. This is discussed more fully in Chapter 36.

**Disincentive effects of taxation and welfare benefits** Being taxed at high rates, for example 98 per cent on income earned, is likely to discourage individuals from working or saving. Being provided with high levels of benefit for not working is equally likely to discourage work. Free market economists tend to argue that the disincentive effects of taxation and welfare benefits are so large that they outweigh any benefits that might arise from high levels of government spending. Therefore the government should spend as little as a percentage of GDP as possible.

The opposing view is that the tax and benefits system can be designed to minimise disincentive effects. For example, in Nordic countries, taxes are high and welfare benefits are generous. However, activity rates (the proportion of people in employment) are also very high. Nordic countries also have similar rates of economic growth compared to lower tax and government spending countries such as the USA or the UK.

# THE SIGNIFICANCE OF DIFFERING LEVELS OF PUBLIC EXPENDITURE AS A PROPORTION OF GDP

Differing levels of public expenditure can have an impact on a large number of economic variables, such as productivity and growth, crowding out and levels of taxation. These will now be considered.

## PRODUCTIVITY AND GROWTH

All economists agree that governments can be inefficient in the way they spend taxpayers' money. But, equally, private sector firms can be inefficient too. As a result, economists are divided about the impact of government spending on productivity and growth.

Free market economists argue that government can never be as efficient as the private sector. They argue that public sector spending is often wasteful and inefficient, because a government lacks the profit motive. In the private sector, firms will drive down costs (productive efficiency) in order to maximise profits. They will produce goods and services which consumers wish to buy (allocative efficiency) through the market mechanism. Private firms will also be innovative and seek out new products to sell (dynamic efficiency). Therefore, free market economists argue that cutting public spending is likely to increase productivity and growth if these resources are transferred to the more efficient private sector.

On the other hand, it can be argued that, with the right controls and incentives in place, government can be a cost-effective and efficient provider. It can also be argued that the public sector provides goods and services vital to productivity and growth which the private sector would otherwise not do. For example:

- a high quality education system increases the human capital of the working population today and in the future
- a comprehensive health care system means that workers suffer fewer days lost from serious illness
- a well targeted benefits system can encourage those out of work to gain jobs
- spending on long term research and development will give the economy a competitive edge in the future
- an efficient road system encourages trade and specialisation and lowers costs for firms
- regional aid will help stimulate economic activity in areas of the country with relatively high unemployment and increase GDP.

## CROWDING OUT

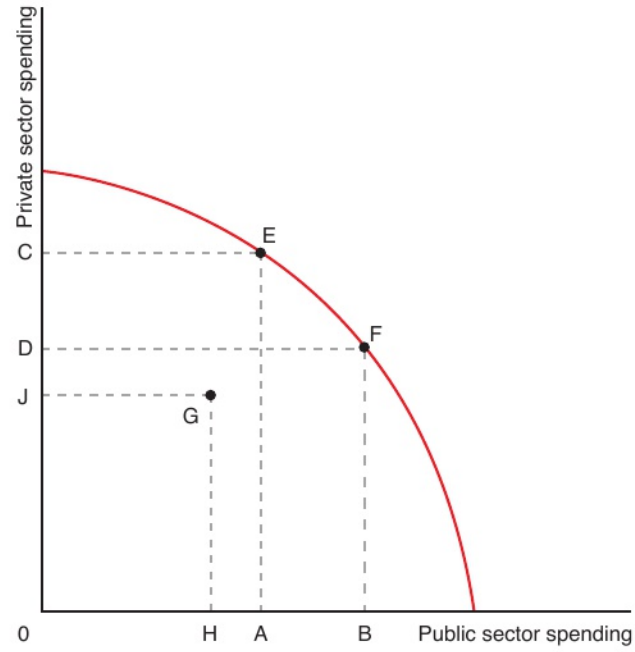
If the economy is at full employment and on its production possibility frontier, it would seem logical to suggest that increasing government spending by $1 must lead to $1 less of private sector spending. In Figure 2, an increase in public sector spending of AB must lead to a fall in private sector spending of CD. The movement along the PPF from E to F shows clearly that extra public spending will crowd out private sector spending. Taking the example of Sweden versus the USA, public sector spending in Sweden averaged approximately 54 per cent of GDP between 2000 and 2014; over the same period it averaged 38 per cent in the USA. In Sweden, the government spent 16 per cent more of GDP on public sector goods and services than the US. In Sweden, therefore, there was resource **crowding out** by the public sector of private sector spending.

Crowding out can also occur at less than full employment, through the financial markets. Financial crowding out occurs when the public sector borrows extra money to fund increased public expenditure or reduced taxes. This extra borrowing increases interest rates because there is an increase in demand for borrowed funds. Higher interest rates discourage private sector borrowing for both consumption and investment. So private sector spending falls.

**FIGURE 2**

**Crowding out**

If the economy is at full employment, producing on its production possibility frontier, then an increase in public sector spending of AB will crowd out CD of private sector spending. However, if there is unemployment and the economy is at G, a move to the PPF can give both extra public sector and private sector spending.



However, there are a number of reasons why public sector spending need not crowd out private sector spending.

**Transfer payments** $1 spent on transfer payments does not necessarily crowd out private sector spending. This is because there is no corresponding output associated with transfer payments. For example, if the government gives $1 billion extra to the unemployed and pays for that by raising taxes on workers by $1 billion, there is not necessarily any crowding out. The private sector will continue to produce the same level of goods and services as before. It is just that it will produce an extra $1 billion for sale to the unemployed and $1 billion less to workers.

**Unemployment** If the economy is suffering from unemployment, then extra government spending could lead to **crowding in**. This means that extra government spending leads to high private sector spending through the multiplier effect. In Figure 2, if the economy is initially at G, higher government spending could lead to the economy moving to either E or F. If it moves to F, then an extra HB government spending crowds in JD of private sector spending.

**Economic growth** Government sector investment could also lead to higher private sector spending. In Figure 3, the economy is initially at E. The government increases its investment spending. As a result, the PPF of the economy moves outwards and the economy moves to the point F. Increased public sector spending then results in extra private sector spending.

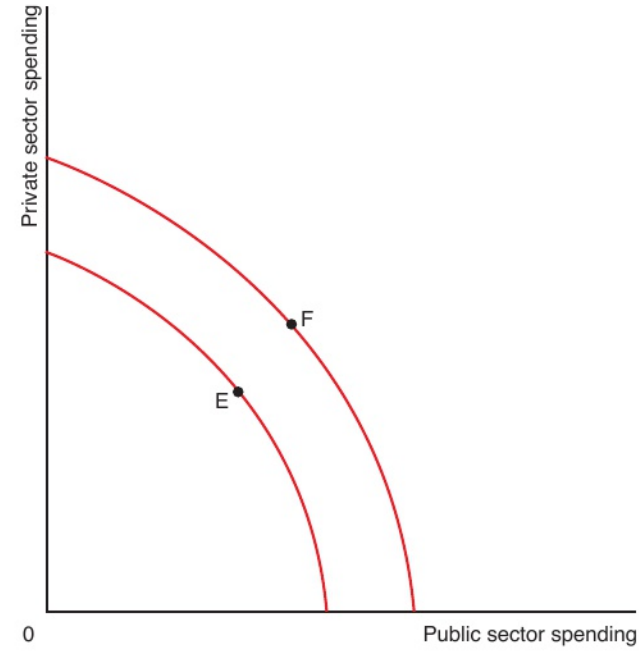
Free market economists would tend to disagree with these arguments.

- Increased taxes, for examples on workers or company profits, to pay for higher welfare payments will discourage workers from working and companies from making profits. Therefore the economy will shrink in size, reducing private sector spending. So increases in transfer payments by government lead to falling private sector spending.
- The multiplier is very low, if not zero. If the government attempts to increase its spending and borrows the money to do so, interest rates will rise and this will reduce private sector spending. If it prints the money to finance the extra spending, there will be higher inflation, which will cut real private sector spending. If there is high unemployment, the solution is to reduce government spending in order to reduce taxes. A reduction in taxes will incentivise workers to work harder and firms to produce more. The private sector will then increase employment and so unemployment will fall.
- Government spending on investment is often wasteful and badly targeted. The result is that the government wastes money and fails to increase the productive potential of the economy. The private sector is far better placed to seek out profitable opportunities that will increase the size of the economy. Less government spending and more private sector spending is therefore key to long-term economic success.

**FIGURE 3**

**Crowding in**

Assume the economy is at full employment on its production possibility frontier at E. Public sector investment increases the productive potential of the economy, shifting the PPF right and moving production to the point F. Increased public sector spending has crowded in both private sector and public sector spending.




## LEVELS OF TAXATION

If government is spending a high proportion of GDP, this is only sustainable in most cases if tax revenues are also a high proportion of GDP. There are exceptions to this, such as oil-rich countries, where revenues from oil pay for most government spending.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, INTERPRETATION, PROBLEM-SOLVING, CRITICAL THINKING

### CASE STUDY: LEVELS OF TAXATION IN INDIA

India has long suffered from a narrow tax base, with many of the country's richest people finding ways to avoid declaring all their income to the government. Total tax revenues in 2016 were equivalent to about 17 per cent of GDP, according to the country's annual economic survey. India's tax to GDP ratio is the lowest of all the BRIC countries. The average for OECD countries is 34 per cent.

As a result, India suffers from underfunded public services, leading to worse education outcomes and lower life expectancy than most of its comparable middle-income countries.

But there are signs that this is about to change for India. Mr Modi's demonetarisation (where a government no longer allows the use of particular coins or banknotes as money) led to a rise in the number of tax returns being filed, as account holders were forced to declare previously hidden money to the authorities. The introduction of the new Goods and Services tax in 2017 also meant the number of people and businesses filing tax returns increased. Under the new system, every business must register for the tax if it wants to claim tax credits on its supplies. As a result, the number of businesses registered to pay indirect tax has risen by more than 50 per cent to about 10 million.

Arvind Subramanian, the government's chief economic advisor, said. 'Having a consistently buoyant source of revenue will help the fiscal outlook in the medium term, and can provide more room for spending on human capital such as health and education.'

Source: India shows neighbours the way out of tax trap, © 2018, The Financial Times Limited

1 How has India increased its levels of taxation?
2 What will be the likely impact on the levels of public expenditure as a proportion of GDP?

## CHECKPOINT

1 What is the distinction between capital expenditure and current expenditure?
2 State one reason why public spending, as a proportion of GDP, is likely to be low for countries with a low income per capita.
3 Give two reasons why government spending, as a proportion of GDP, is likely to rise in a recession.
4 Give one example of how a change in the age distribution in an economy is likely to affect the pattern of public expenditure.
5 Why might changing expectations explain the increase in public expenditure on health, per capita, for many economies?
6 Give one reason why an increase in public expenditure, as a proportion of GDP, might result in lower productivity and growth.
7 What is meant by the term 'crowding out'
8 Why are countries with high public expenditure, as a proportion of GDP, likely to have high levels of taxation?

## SUBJECT VOCABULARY

**Asian tigers** the economies of Hong Kong, Singapore, South Korea and Taiwan, which all experienced rapid industrialisation and, at the same time, exceptionally high economic growth rates

**capital government expenditure** spending by government on investment goods, such as new roads, new hospitals or new street lighting

**crowding in** in the context of public sector spending, crowding in occurs when extra government spending leads to higher private sector spending

**crowding out** in the context of public sector spending, crowding out occurs when extra government spending leads to lower private sector spending

**current government expenditure** spending by government on goods and services which will be consumed in the short term, such as teachers' salaries or heating for government buildings; it also includes transfer payments and debt interest

**expansionary fiscal policy** fiscal policy that leads to an increase in aggregate demand

**transfer payments** spending for which there is no corresponding real output; in government expenditure, transfer payments are welfare payments such as the state pension or child benefit

## THINKING LIKE AN ECONOMIST

### THE CASE FOR GENDER BUDGETING

There is an economic case for gender equality. Educating and employing women boosts economic growth and tax revenue. Gender budgeting identifies policies that are unequal, as well as opportunities for government spending on areas which help women and which have a high return.

Gender budgeting is a way for governments to promote equality through fiscal policy. It involves analysing a budget's different impacts on men and women and allocating spending accordingly. Gender budgeting also involves setting targets – such as equal numbers of boys and girls attending school – and directing funds to meet them.

Countries from Sweden to South Korea have adopted gender budgeting. Supporters of the technique argue that once public spending is broken down into its components, the opportunities stand out. For example, if the British government diverted investment worth 2 per cent of GDP from construction to the care sector, it could create 1.5 million jobs instead of 750,000. Many governments treat spending on physical infrastructure as an investment, but spending on social infrastructure, such as childcare, as a cost. Yet such spending also increases productivity and growth, partly by increasing the number of women in the workforce.

Gender budgeting may also be an efficient approach to fiscal policy. In developing countries, for example, investment in clean water and electricity eases housework, freeing time for mothers to earn money and for girls to go to school. Cutting funding may save money in the short run, but when women spend their days fetching water, growth suffers.

Similarly, in richer countries which often subsidise child care, cutting funding for such public services (which is a common way to reduce fiscal deficits) usually requires women to provide more unpaid labour at home. This limits their ability to participate in the labour force and therefore reduces economic growth.

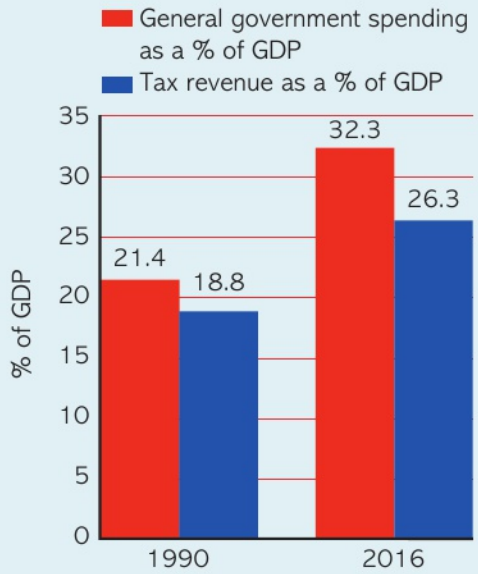
Faced with these realities, some governments have started to adopt gender budgeting. Rwanda found that investment in clean water not only reduced disease but also freed up time for girls, who used to fetch the water, to go to school. In India the use of gender budgeting in a state is a better indicator of girls' school attendance than higher incomes.

Gender budgeting has also been used to highlight the unequal impact of austerity measures, used by governments to reduce government spending, in an attempt to reduce their fiscal deficits. For example, cutting welfare payments affects women disproportionately more, because they tend to earn less to begin with and are more likely than men to be single parents.

Gender budgeting has won the support of international financial institutions, such as the World Bank. Christine Lagarde, the managing director of the IMF, now wants gender budgeting to play a role in the advice the IMF gives to its member countries.

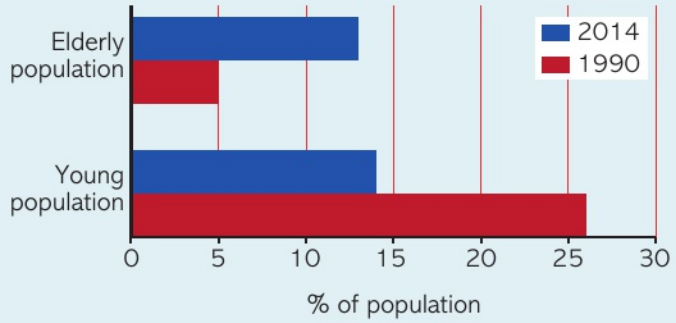
# EXAM PRACTICE

**SKILLS** REASONING, ANALYSIS, INTERPRETATION, PROBLEM-SOLVING, CRITICAL THINKING



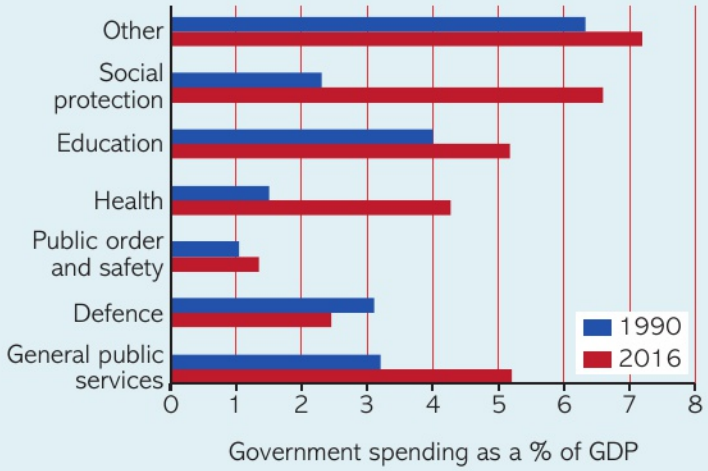

▲ **Figure 4 South Korea: Government spending and tax revenue, as a % of GDP**

Source: OECD




▲ **Figure 5 South Korea: Elderly and young population as a % of the population**

Source: OECD




▲ **Figure 6 South Korea: The components of general government spending, as a % of GDP**

Source: OECD

## EXTRACT A: THE NEW ASIAN INTEREST IN SOCIAL WELFARE

In 2011 Indonesia's parliament passed a law promising to provide health insurance to all the country's 240 million citizens from January 1, 2014. The same law also committed the government to extending pensions, death benefits and worker accident insurance to the nation by 2015. Indonesia is not the only Asian country expanding its welfare state. Thailand, which achieved universal health care in 2001, introduced pensions for the informal sector in May 2011.

Rich **Asian tigers**, such as South Korea and Taiwan, have gone further. For example, the Asian financial crisis of 1997–98 resulted in a large number of redundancies among industrial workers. Governments found it impossible to leave large numbers of unemployed people without support. Before 1998, none of Taiwan's unemployed got state benefits. By 2001, all of them did.

In 1999 in South Korea, President Kim-Dae-jung pushed through a law guaranteeing a minimum income to the poor, even if they could work. In 2008, South Korea introduced a universal basic pension and an insurance scheme providing long-term care for the elderly.

In the past, the now rich Asian tigers kept social spending low as a percentage of GDP, while their economies grew at high rates. However, it seems that every country that can afford to build a welfare state will come under pressure to do so.

## EXTRACT B: INFRASTRUCTURE AT THE HEART OF SENEGAL'S GRAND PLAN

In 2003, public expenditure in Senegal was 21 per cent of GDP. By 2014 this had risen to 28 per cent of GDP. Between 2003 and 2014, current expenditure by the government increased by five percentage points of GDP, driven largely by the wage bill in the public sector.

The increase in public spending was not accompanied by similar increases in tax revenues. As a result, in 2014, the amount of borrowing by the public sector reached a deficit of 5.2 per cent of GDP,

up from less than 2 per cent of GDP a decade earlier. There was concern that this would be increasingly costly as credit conditions were tightening for emerging market economies.

A report by the IMF in 2015 states that although Senegal has been one of the countries with a higher than average level of public spending as a percentage of GDP in the region, average GDP growth has been below the WAEMU (West African Economic Monetary Union) average. This may be partly due to poor planning and management of public investment in Senegal, leading to low efficiency.

In 2013, President Macky Sall set the goal of making Senegal a middle-income economy by 2035. This will involve an infrastructure- and public-investment-led growth strategy called the PSE (Plan Senegal Emergent). Increasing electricity generation capacity is one project, for example. 'Right now the state will have to be in the lead. They will have to invest heavily in infrastructure, address infrastructure deficits and expand the size of the state,' said Bineswaree Bolaky, economic affairs officer at the UN Conference on Trade and Development. 'That's not an issue so long as infrastructure ends up building the capacity of the private sector so that it can become more competitive and productive.'

In 2018 the IMF reported that Senegal's economic growth had been high in the first years of the PSE. Economic growth in Senegal had risen from 2.8 per cent in 2013 to just over 7 per cent in 2017. However, continuing to support the PSE will require increased tax revenues.

Q

**1** Indonesia is an emerging middle-income country and Cyprus is a high-income country. In 2016, Indonesia's government expenditure as a proportion of GDP was 16 per cent. In Cyprus, public expenditure as a proportion of GDP was 38 per cent. Which one of the following is the most likely explanation for this? **(1 mark)**

(a) Cyprus is experiencing lower economic growth than Indonesia.
(b) Levels of taxation are higher in Cyprus than in Indonesia.
(c) GDP in Cyprus is lower than in Indonesia.
(d) Citizens in Indonesia have a lower demand for public sector goods and services, compared to citizens in Cyprus.

**2** Read the above extracts and answer the following.

(a) In 1990, social protection spending by the South Korean government was 2.3 per cent of GDP (as shown in Figure 6). Using this information and Figure 4, calculate the proportion of government spending on social protection in 1990. **(2 marks)**
(b) Explain what is meant by the phrase 'current expenditure' (Extract B line 3). **(4 marks)**
(c) With reference to Figure 4 and Extract B, analyse the likely effect of differing levels of public expenditure, as a proportion of GDP, on levels of taxation. **(6 marks)**
(d) With reference to the information provided, examine the likely reasons for the changes in the size and pattern of public expenditure between 1990 and 2016 in South Korea. **(8 marks)**
(e) With reference to the information provided, discuss the likely economic effects of an increase in public spending as a proportion of GDP on countries such as Indonesia, Taiwan, Thailand, South Korea and Senegal. **(14 marks)**

**3** From 1996 to 2016, Poland's public expenditure as a proportion of GDP fell from 51 per cent to 41 per cent. Evaluate the possible reasons for a fall in the level of public expenditure, as a proportion of GDP, for an economy. **(20 marks)**

**EXAM HINT**

In Question 2d, make sure you use the data in the figures to support your answer.

**EXAM HINT**

In Question 2e, the economic effects will depend on both the impact of a rise in the size of public expenditure, as well as how the pattern of public expenditure might change as a result of more spending. Make sure your answer includes a discussion of a range of themes, such as poverty reduction, incentives to work, productivity, crowding out, levels of taxation and economic growth.

# 35 TAXATION

UNIT 4
4.3.5

## LEARNING OBJECTIVES

- Understand the basic reasons for taxation
- Understand the distinction between, and examples of, direct and indirect taxes
- Understand the distinction between progressive, proportional and regressive taxes
- Understand the economic effects of changes in direct and indirect tax rates on:
  - incentives to work
  - tax revenues (Laffer curve analysis)
  - income distribution, real output and employment, the price level, the trade balance, FDI flows

## GETTING STARTED

For an economy of your choice, find out how income for individuals is taxed. Is there a minimum amount of income which can be earned which is not taxed? Are there different income tax rates which relate to different levels of taxable income? Have income tax rates changed over the last two decades? If so, why might this have been the case?

## THE REASONS FOR TAXATION

Governments use taxation for a number of purposes:

- To pay for government expenditure – governments need to raise finance for their expenditure programmes. They can borrow a limited amount of money for this, but most of the finance must come from taxation if inflation is to be avoided.
- To correct market failure such as externalities – governments can intervene in individual markets by changing taxes and thus changing demand. For instance, tobacco consumption can be reduced by raising taxes on cigarettes, pollution can be controlled by imposing pollution taxes, or sales of books can be increased by exempting them from VAT. Used in this way, taxation becomes a way of increasing economic efficiency.
- To manage the economy as a whole – taxation can have an important influence on the macro-economic performance of the economy. Governments may change tax rates in order to influence variables such as inflation, unemployment and the balance of payments.
- To redistribute income – a government may judge that the distribution of resources is unfair. To redistribute income, it may impose taxes which reduce the income and wealth of some groups in society and use the money collected to increase the income and wealth of other groups.

## THE DISTINCTION BETWEEN DIRECT AND INDIRECT TAXES

LINK Student Book 2, Chapter 20

One way of classifying taxes is to make the distinction between direct and indirect taxes. A **direct tax** is a tax levied directly on individuals or companies. Examples of direct taxes used by many economies include:

- income tax – a tax that individual income earners have responsibility for paying.
- corporation tax – a tax paid by companies, levied on company profits.
- capital gains tax – a tax which is paid on the profit made when assets, such as bonds and shares, are sold. It is tax paid on the gain in value of an asset.
- inheritance or estate tax – a tax paid by a person who receives money or property due to the death of its previous owner.
- social security contributions – compulsory payments by both employees and employers. These are payments to the government as a form of insurance premium. This means individuals will gain a future social benefit which includes unemployment benefits, sickness benefits, hospital expenses etc. Strictly speaking, social security contributions are not taxes because they are a form of insurance premium. However, increasingly they have come to be seen and used by governments as a form of tax.

An **indirect tax** is a tax levied on goods or services. Examples include:

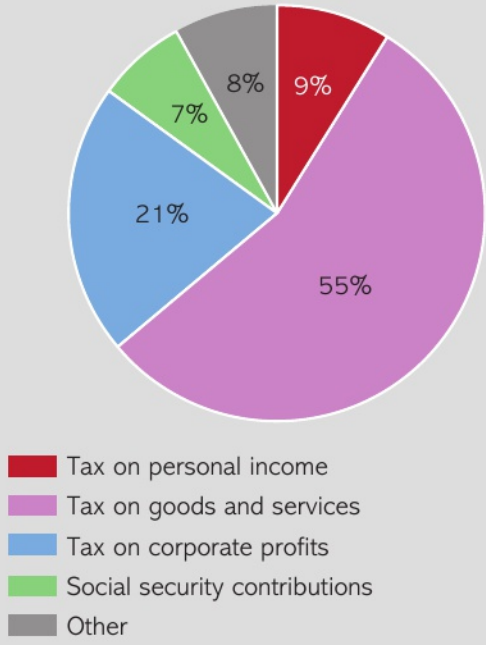
- value added tax (VAT), known in some countries as a goods and services tax.
- excise duties – taxes on specific groups of products, for example tobacco.
- customs duties – a tax on either the export or import of goods and services.

Economies will raise tax revenue from both direct and indirect taxes. For example, as reported by *The Times of India*, the proportion of total tax revenue in India in the 2017–18 budget from direct taxes was 50 per

## ACTIVITY 1

SKILLS REASONING, INTERPRETATION, COMMUNICATION

### CASE STUDY: TAXATION IN CHILE




▲ **Figure 1 Chile 2016: Different taxes as a % of tax revenue**

In 2016, Chile raised the smallest amount of tax revenue from personal income, as a percentage of total tax revenue, among the OECD member countries. In contrast, Chile raised the highest amount of tax revenue from taxes on goods and services and corporate profits, as a percentage of total tax revenue, compared to other OECD countries.

**1** What is the distinction between direct and indirect taxes? Use examples from the pie chart.

cent (made up by 23 per cent from personal income tax and 27 per cent from corporate taxes) and 49 per cent from indirect taxes (made up by 33 per cent from the goods and services tax, 11 per cent from excise duties and 5 per cent from customs duties).

## THE DISTINCTION BETWEEN PROGRESSIVE, PROPORTIONAL AND REGRESSIVE TAXES

Another way of classifying taxes is to make the distinction between progressive, proportional and regressive taxes.

A **progressive tax** is a tax where the proportion of income paid in tax rises as the income of the taxpayer rises. For example:

- Income tax would be progressive if a worker paid 5 per cent tax on income of $4000 per year, but 25 per cent on income of $40,000. Direct taxes on income tend to be progressive. People earning very low incomes pay no income tax while those on very high incomes pay a higher rate of tax.
- Corporation tax could be considered progressive because taxes on profits might be paid for by paying less in dividends to shareholders. Individual shareholders tend to be higher income individuals. Also, in many countries there are two different rates of corporation tax: a lower rate for those making a profit below a particular amount and a higher rate above this.
- Capital gains tax is progressive because it is paid only by those with enough assets to make capital gains over the yearly allowance. These are likely to be high income individuals.

A **regressive tax** is a tax where the proportion of income paid in tax falls as the income of the taxpayer rises. Indirect taxes, such as VAT, tend to be regressive. As incomes increase, households tend to spend less as a proportion of income and save more. The result is that taxes on spending fall as a proportion of income, as income rises. Taxes on cigarettes tend to be highly regressive because they form a much larger percentage of spending for low-income households than high-income households.

A **proportional tax** is one where the proportion paid in tax remains the same when the income of the taxpayer changes (although the actual amount paid increases as income increases). For example, a taxpayer might earn $10,000 and pay $1000 in tax. If tax increases to $2000 when income rises to $20,000, then the tax is proportional over the income range $10,000 to $20,000.

## INCOME TAX: AVERAGE AND MARGINAL RATES OF TAX

In most income tax systems there is an amount of income which can be earned which is not taxed. This is called the tax exemption level of income or tax allowance. The rest of the income is called the 'taxable income'. For the taxable income, the tax rate tends to rise as income rises. This means each additional dollar earned might be taxed at a higher rate than the one before. Income tax is therefore a progressive tax.

It is important to understand that the marginal rate of income tax differs from the average rate. For example, assume that workers in an economy can earn $10,000 tax free, then they pay 20 per cent tax on the next $40,000 and 40 per cent on earnings above this. Workers earning $100,000 would have a

marginal rate of tax of 40 per cent. This is because the marginal rate of tax is the tax rate on the last $1 earned. But their average rate of tax would be the total tax paid divided by their income. Total tax paid is $28,000: this is $0 on the first $10,000, $8000 on the next $40,000 ($40,000 × 20 per cent) and $20,000 on the next $50,000 ($50,000 × 40 per cent). With an income of $100,000, the average rate of tax is 28 per cent (100 per cent × $28,000 ÷ $100,000). With a progressive tax, the marginal rate of tax rises as income rises. If tax rates are rising with income, the average rate of tax is always below the marginal rate of tax.

## THE ECONOMIC EFFECTS OF CHANGES IN DIRECT AND INDIRECT TAX RATES

Changes in direct and indirect tax rates will have an impact on a number of economic variables including incentives to work, tax revenues etc.

### INCENTIVES TO WORK

High marginal rates of tax (the rate of tax on the last $1 earned or spent) discourage economic activity. A tax on cigarettes leads to fewer cigarettes being bought. A tax on work (income tax) leads to people working less. A tax on profits (corporation tax) discourages firms from making profits. Lowering certain taxes will therefore raise the level of economic activity and increase aggregate supply.

Free market economists believe that the supply of labour is relatively elastic. A reduction in marginal tax rates on income will lead to a significant increase in 'work'. This could mean individuals working longer hours, being more willing to accept promotion, being more geographically mobile, or simply being prepared to join the workforce.

Work is, arguably, an inferior good, while leisure, its alternative, is a normal good. The higher an individual's income, the less willing he or she is to work. So a cut in marginal tax rates will have a negative income effect at the margin (i.e. the worker will be less willing to work). However, a cut in marginal tax rates will have a positive substitution effect because the relative price of work to leisure has changed in favour of work (i.e. the worker will be more willing to work).

Free market economists believe that the substitution effect of a tax cut is more important than the income effect and hence tax cuts increase incentives to work.

### TAX REVENUES: LAFFER CURVE ANALYSIS

If cutting marginal income tax rates encourages people to work harder and earn more, then in theory it could be that tax revenues will increase following a tax cut. For instance, if 10 workers, each earning $10,000 a year, pay an average 25 per cent tax, then total tax revenue is $25,000 (10 × $10,000 × 0.25). If a cut in the tax rate to 20 per cent makes each worker work harder and increase their earnings to, say, $15,000, tax revenues will increase to $30,000 (10 × $15,000 × 0.2).

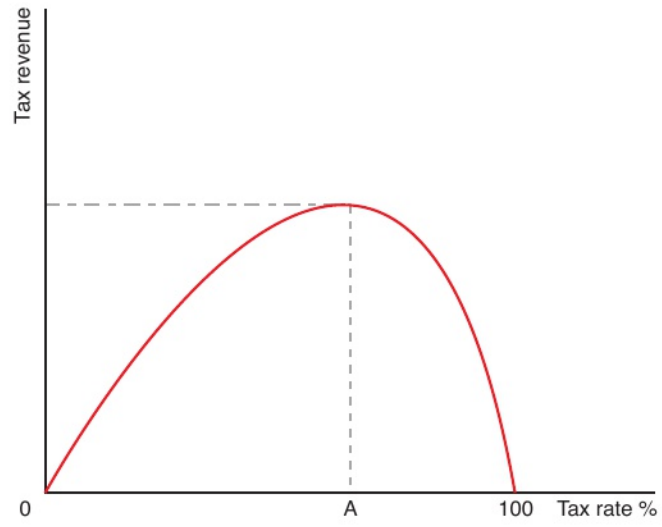
This is an example of the Laffer curve effect, named after Professor Arthur Laffer who popularised the idea in the late 1970s. Figure 2 shows a **Laffer curve**, which plots tax revenues against tax rates. As tax rates increase, the rate of growth of tax revenue falls because of the disincentive effects of the tax. OA shows the maximum revenue position of the tax. An increase in the tax rate above OA discourages economic activity and causes tax revenues to fall.

There is much debate about whether the Laffer curve reflects what happens in the real world. For example, if the top rate of income tax is 90 per cent

**FIGURE 2**

**The Laffer curve**

As tax rates increase, economic activity is discouraged and hence the rate of growth of tax revenues falls. Above OA, an increase in tax rates so discourages economic activity that tax revenues fall.



and this is increased to 95 per cent, it is difficult to see why those already paying 90 per cent would suddenly stop working as hard or make extra efforts to avoid or evade tax. Equally, an increase in the top rate of tax from 40 per cent to 50 per cent is unlikely to have a major distinctive effect on those in work. In the United States, large tax cuts for those on high incomes under President George Bush in the early 2000s saw a major cut in tax revenues paid by those individuals. Yet the tax cuts were justified on the grounds that cutting taxes on high-income earners would increase tax revenues.

Changes in tax and benefit rates can also have incentive effects for those in work and on low incomes or for those unemployed.

LINK Student Book 1, Chapter 39

## INCOME DISTRIBUTION

Changes in direct and indirect tax rates are likely to have an effect on income distribution. Direct taxes on income tend to be progressive. Those on very low incomes pay no income tax while those on very high incomes pay a higher rate of tax than those on lower incomes. Indirect taxes, such as VAT, tend to be regressive. As incomes increase, households tend to spend less as a proportion of income and save more. The result is that taxes on spending fall as a proportion of income as income rises. Taxes on cigarettes tend to be highly regressive because they form a much larger percentage of spending for low-income households than high-income households. So reducing rates of income tax and raising the same amount of revenue by increasing indirect taxes will lead to greater inequality.

The distinction between progressive, regressive and proportional taxes is made because it is important in the study of the distribution of income and wealth. The more progressive the tax, the greater the link with ability to pay the tax and the more likely it is to result in a redistribution of resources from the better off in society to the less well off.

So, the impact of a change in tax revenues for the government on income distribution after tax will depend on why tax revenues have changed. For example:

- If the government increases the rate of value added tax (VAT) or excise duties, the distribution of income is likely to become less equal. VAT and excise duties have a regressive effect.
- If there is a rise in tax revenues because of a rise in the top rate of income tax, then the distribution of income is likely to become more equal. This is because the rise in tax revenues will be paid by top-income earners and not by lower-income earners. However, if very high rates of income tax encourage tax avoidance, the overall impact on income distribution may be less significant than expected.
- If the rate of corporation tax (the tax on company profits) rises, then the distribution of income is likely to become more equal. This is because a rise in corporation tax, the share of profits going to the government, is likely to lead to a fall in dividend payments to shareholders. Shares are mainly owned by those on high incomes. So the income of high earners is likely to fall.

## REAL OUTPUT, THE PRICE LEVEL AND EMPLOYMENT

A change in tax rates is likely to have an effect on real output, the price level and employment. Some tax changes affect aggregate demand while others affect aggregate supply.

**Aggregate demand** Some taxes, such as income tax and employees' National Insurance contributions, affect aggregate demand. A rise in income tax rates, for example, will reduce household disposable income. Households will then spend less. This fall in consumption will reduce the output demanded at any given price. This is shown by a shift to the left in the aggregate demand curve in Figure 3. Equilibrium output falls from $Y_1$ to $Y_2$ in the short run and the price level falls from $P_1$ to $P_2$. So a rise in income tax rates leads to a fall in the short-run equilibrium price level.

What happens in the long run depends on the position of the vertical long-run aggregate supply curve. For example:

- Assume that the economy is producing an output of $Y_2$ which lies on the vertical part of the LRAS curve. Aggregate demand of $AD_1$ had caused good economic growth but also led to high inflation, pushing the economy in the short run beyond its long run sustainable level of output. Then $P_2$ and $Y_2$ will represent the new long run equilibrium.
- Assume that the economy is producing an output of $Y_1$ which lies on the vertical part of the LRAS curve. However, the economy at the new short-run equilibrium at $Y_2$ would be in long-run disequilibrium. The economy would have experienced a recession in the move from $Y_1$ to $Y_2$. Unemployment would have risen. Eventually, aggregate demand is likely to rise again through a combination of increased consumption and

**FIGURE 3**

**An increase in tax leads to a fall in aggregate demand**

An increase in income tax, for example, leads to a fall in disposable incomes. This leads to a fall in consumption and hence aggregate demand. This results in a fall in the price level and equilibrium output in the short run.

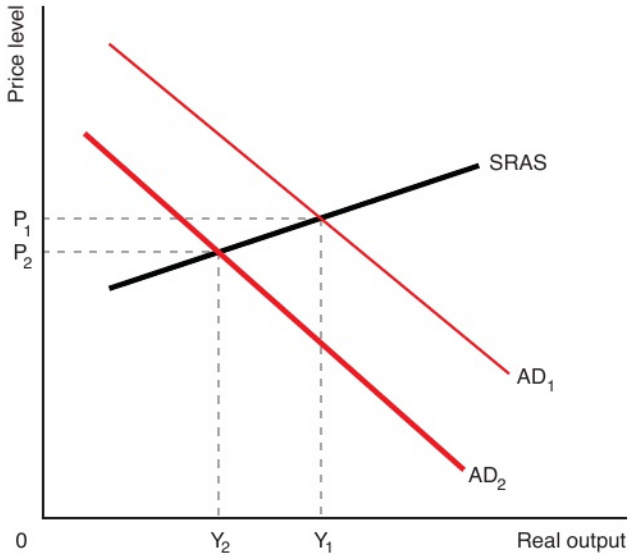
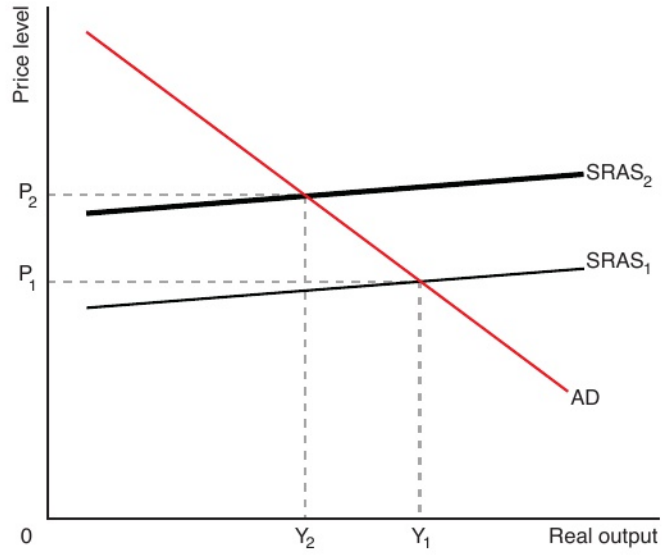



**FIGURE 4**

**An increase in tax leads to a fall in aggregate supply**

An increase in VAT, for example, leads to an increase in costs for firms. This means that at any given level of output, firms will charge higher prices, shifting the SRAS curve upwards. This leads to a rise in the price level and a fall in equilibrium output in the short run.




investment, especially if the government pursues a looser monetary policy. The recovery in the economy, shown by the shift from $AD_2$ to $AD_1$, will restore the economy to its long-run equilibrium level of output of $Y_1$. Unemployment will have fallen while the price level will have risen.

**Aggregate supply** Some taxes, such as VAT, excise duties and social security contributions made by employers, raise costs to firms. A rise in indirect taxes such as VAT and excise duties means that at any given level of output, firms have to charge a higher price for their products. They need to regain the extra VAT or excise duties they will pass on to government. If the rise is an increase in employers' social security contributions, the cost of employing labour will increase. Higher costs will shift the short run aggregate supply curve up. This is shown in Figure 4. In the short run, a rise in these taxes will shift the short run aggregate supply curve from $SRAS_1$ to $SRAS_2$. Equilibrium output will fall from $Y_1$ to $Y_2$, while the price level will increase from $P_1$ to $P_2$. Unemployment will rise.

LINK Student Book 1, Chapter 13

What happens in the long run depends on the position of the long-run aggregate supply curve. For example:

- If the vertical LRAS curve is at $Y_2$, then $Y_2$ will represent a new long-run equilibrium position.
- If the LRAS curve is at $Y_1$, then the move back to equilibrium will depend on how the aggregate demand and aggregate supply change in the short run. At $Y_2$, the economy is below its full employment level if the LRAS curve is at $Y_1$. One possibility is that workers will respond to unemployment by accepting wage cuts. This will reduce costs of firms and the SRAS curve will shift back down to $SRAS_1$. Employment will rise. Another possibility is that workers will attempt to secure higher wages to cover the loss of real earnings they will have suffered from the rise in the price level. A wage-price spiral could then develop. Firms put up their prices to cover increased costs. Workers demand and receive higher wages to compensate them for the loss of their real earnings. Eventually, however, the economy will settle back to a long-run equilibrium where aggregate demand equals long-run aggregate supply.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, COMMUNICATION

### CASE STUDY: SOUTH AFRICA RAISES TAXES

In 2018, South Africa increased VAT for the first time since 1993. The increase from 14 per cent to 15 per cent was done to tackle the government's rising debt. Civil society groups said they opposed raising VAT as a 'disproportionate burden on the poor'. Mr Gigaba, the finance minister, said the combination of increasing VAT and personal income taxes would raise R36 billion ($3bn) in revenue.

1 What is the likely impact of the rise in VAT on real output, employment and the price level? Compare this with the likely impact of a rise in personal income taxes on real output, employment and the price level.

## THE TRADE BALANCE

An increase in taxes on households will reduce their disposable income. This, in turn, will reduce their consumption including spending on imports. Hence the trade balance will improve. Equally, a cut in consumption will reduce aggregate demand. With aggregate demand falling from what it would otherwise have been, firms will need less capacity to meet demand and so they will need to invest less. Some of the cut in investment will come from cuts in imports of capital equipment. Hence the trade balance in the short term will improve. In the long term, it could deteriorate if reduced investment makes domestic firms less internationally competitive over time.

## FDI FLOWS

Foreign direct investment (FDI) is normally defined as investment by a foreign company where the foreign company acquires 10 per cent or more of the shares of the domestic company. For example, it could be Volkswagen (the foreign company) setting up a new vehicle manufacturing plant in Vietnam and owning 100 per cent of the company it sets up in Vietnam. It could be Volkswagen buying an existing vehicle manufacturing company in India. It could be Volkswagen buying a 20 per cent share in a vehicle manufacturing company in China. Countries compete to attract FDI. For a country, FDI represents a way to increase investment in their own economies and to boost output and employment. For governments, it represents a way of increasing tax revenues because the ongoing operations will pay a variety of taxes – from taxes on labour employed, to sales taxes such as VAT, to taxes on profits.

Some countries have chosen to encourage FDI inflows by offering lower rates of tax on investment. In particular, some countries have deliberately lowered their rates of corporation tax, the tax on company profits. The reason is that any loss of tax revenues will be more than offset by increased economic growth and prosperity resulting from the investment. Also, in the long term, the government may collect more in tax despite the rate of tax being lower because if the investment had not been made, no tax would have been payable.

The problem with 'tax competition' is that it can become a 'race to the bottom'. If enough countries lower their taxes in an attempt to attract FDI, lower taxes will have little impact on a firm's decisions about where to make the investment. However, countries will see significantly lower tax revenues because all the existing firms in the country will now be paying lower tax. Using game theory, the strategy only works for a country lowering its tax rates if enough other countries keep their tax rates high. If every country lowers their tax rates, every government simply loses tax revenues.

Corporation tax rates have become a major international issue in the 2000s. Transnational companies have become increasingly aggressive about moving their assets around the world to avoid paying taxes. If a transnational can avoid billions of dollars in taxes by opening an office in the Cayman Islands, or sending all European sales through an office in Ireland, then there has been some foreign direct investment in the Cayman Islands and in Ireland. But it has come at a huge cost to many other countries.

## CHECKPOINT

1 What is the distinction between a direct tax and an indirect tax?

2 How does a progressive tax differ from a regressive tax?

3 Using the income and substitution effect, outline the view that a fall in income tax rates will increase incentives to work.

4 Draw a Laffer curve. Make sure you label the axes correctly.

5 If the tax system becomes more regressive, what effect will this have on income distribution?

6 Draw an AD/SRAS diagram to show the effect of a rise in VAT on real output and the price level.

7 Draw an AD/SRAS diagram to show the effect of a fall in income tax rates on real output and the price level.

8 What might be the impact on FDI flows, for a country, if it increases corporation tax rates?

## SUBJECT VOCABULARY

direct tax a tax levied directly on an individual or organisation

indirect tax a tax on a good or service

Laffer curve a curve which shows that at low levels of taxation, tax revenues will increase if tax rates are increased. However, if tax rates are high, then a further rise in rates will reduce total tax revenues because of the disincentive effects of the increase in tax

progressive tax a tax where the proportion of income paid in tax rises as the income of the taxpayer rises

proportional tax a tax where the proportion paid in tax remains the same while the income of the taxpayer changes

regressive tax a tax where the proportion of income paid in tax falls as the income of the taxpayer rises

## THINKING LIKE AN ECONOMIST

### AMERICAN TAXES ARE UNUSUALLY PROGRESSIVE

According to one study from 2009, America has perhaps the most progressive tax system in the world. But in terms of income redistribution, this does not show the whole picture, because the country spends very little of the money it raises on the poor. So overall, America's government reduces inequality by much less than the governments of other rich countries, according to the OECD.

On the tax side, America's tax rates rise with income, but not as much as some countries. For example, in 2016, the top rate of income tax averaged about 46%, once state taxes were included, less than France's 55% or Sweden's 57%.

So what makes the US tax system so progressive? There are two reasons.

Firstly, America has no value added tax, but many states do have sales taxes which are similar to VAT. These taxes cost the poor a higher fraction of their income than the rich, because high earners tend to save more. However, the average rate of VAT in the OECD is about 19 per cent, but in America these sales taxes are on average less than 10%.

Secondly, America's generous deductions and credits, or 'tax expenditures' are good for the working poor. One of the main ones is the earned income tax credit (EITC), a wage top up for low earners. The child tax credit, a refund for parents, is another. In 2013, tax expenditures boosted the income of the poorest fifth of households by almost 12 per cent, according to the Congressional Budget Office. A single mother with two children earning two-thirds of the average income, pays overall taxes of just 13 per cent in America, according to the OECD. In Sweden this is almost 34 per cent.

However, international comparisons suggest it is on the government expenditure side where the poor lose out. For example, spending on the poor through programmes such as Medicaid, health insurance for the poor, tends to be presented as spending on the 'undeserving'. This means there is not much political pressure to target government spending to support the poor. As a result, combining the impact of both taxation and government spending, the poorest 10 per cent of households in America remain poorer than the equivalent group in many other advanced economies.

# EXAM PRACTICE

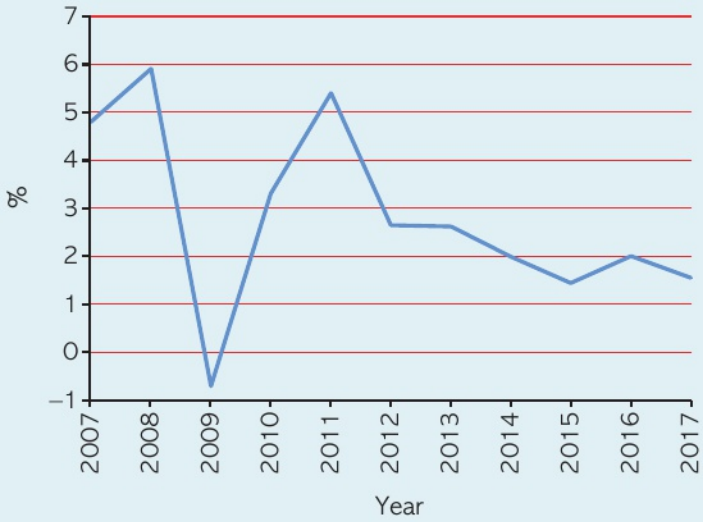
SKILLS PROBLEM-SOLVING, REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

# CHINA PLANS INCOME TAX CUT

## EXTRACT A: CHINA PLANS TO CUT INCOME TAX

China is one of the most unequal countries in the world, with a Gini coefficient for income of about 0.4, according to official data.

In 2018, China's parliament drafted a tax plan which will raise after-tax household income. The tax plan raises the minimum level at which an individual starts paying income tax from 3500 renminbi (RMB) to 5000 RMB. It expands the three lowest tax brackets – 3 per cent, 10 per cent and 20 per cent – to cover millions of taxpayers who previously paid higher rates. Almost all individual taxpayers will receive a tax cut, but those earning between the equivalent of US$27,000 and US$45,000 will receive the largest cut in percentage terms. A taxpayer earning US$31,000 a year would see their effective tax rate fall 8.1 percentage points, while a person earning more than US$90,000 would only see a fall of 4.2 percentage points.




▲ **Figure 5 China's annual % growth of household final consumption expenditure**

Source: World Bank

## EXTRACT B: CHINA'S TAX SYSTEM

The income tax cut will not have a significant impact on China's fiscal budget because the country relies less on individual income taxes for tax revenue than other large economies. Individual income tax raised was $180 billion in China in 2017, at the current exchange rate, equal to 8 per cent of total tax revenue. In the US, the income tax share is about a half.

Value added taxes are the largest component of Chinese tax revenue, making up 39 per cent of tax collections in 2017. Some direct taxes are also deeply regressive, such as social security contributions, although the government has reduced the cost of social security payments for its poorest citizens.

China's reputation as a low-cost manufacturing location has also recently been under attack. In its annual 'Doing Business' rankings, the World Bank estimates that China's total tax rate as a percentage of profits is 68 per cent. This is roughly two-thirds more than in high income counties. Like all rich countries, China now has powerful people in business who are saying they will invest abroad if the government does not cut its tax bills.

**1** On January 1st 2018, Saudi Arabia and the United Arab Emirates (UAE) introduced a 5 per cent value added tax on most goods and services (including food, clothes and utilities) as a way to raise non-oil revenue for the government.
Assuming all other taxes remain unchanged, which of the following statements is likely to be true about the new tax system in Saudi Arabia and the UAE? **(1 mark)**

(a) The tax system now takes a larger proportion of tax from those on higher incomes, relative to those on lower incomes.
(b) The progressivity of the tax system has remained unchanged, because VAT is a tax on goods and services and not income.
(c) The tax system has become more regressive.
(d) Income distribution will become more equal.

**2** Read the above extracts and answer the following.

(a) Under the proposed new tax plan, an individual with a monthly income of 10,000 RMB would pay: no tax on the first 5000 RMB; 3 per cent on the next 3000 RMB; and 10 per cent on the last 2000 RMB. Calculate the proportion of income paid in income tax for individuals in China whose income is 10,000 RMB per month after the tax reform. **(2 marks)**
(b) Explain what is meant by the term 'regressive taxes' (Extract B). **(4 marks)**
(c) With reference to Extract B, analyse the likely effect of high taxes in China, as indicated by the World Bank's 'Doing Business' rankings, on future FDI flows between China and the rest of the world. **(6 marks)**
(d) With reference to the information available, examine the likely impact of the proposed income tax cuts on income distribution in China. **(8 marks)**
(e) With reference to the information available, discuss the likely impact of China's planned income tax cuts on real output, employment and the price level. **(14 marks)**

**3** On June 1st, 2018 the Malaysian government abolished its 6 per cent goods and services tax. Evaluate the likely macroeconomic effects of a fall in indirect taxes **(20 marks)**

**EXAM HINT**

In Question 2d, make sure you clearly explain the likely impact using correct terminology such as 'more progressive' or 'less progressive'. Use any relevant information in the passages to help you discuss whether the impact on income distribution is likely to be significant.

**EXAM HINT**

In Question 3, make sure your analysis includes a range of themes which are likely to include some of the following: the impact on income distribution, the price level, real GDP, tax revenues, living standards, unemployment, consumption, circular flow of income. Within each theme area, evaluate by considering factors which might offset the likely impact.

# 36 PUBLIC SECTOR BORROWING AND PUBLIC SECTOR DEBT

UNIT 4
4.3.5

## LEARNING OBJECTIVES

- Understand the distinction between:
  - fiscal deficits and fiscal surpluses
  - automatic stabilisers and discretionary fiscal policy
  - a fiscal deficit and the national debt
  - structural and cyclical fiscal deficits
- Understand the factors influencing the size of fiscal deficits and national debts
- Understand the significance of the size of fiscal deficits and national debts, in terms of:
  - the impact on interest rates
  - debt servicing
  - intergenerational equity

## GETTING STARTED

Find out the current level of the fiscal deficit and the value of the national debt for a range of countries. Collect this data in monetary terms as well as a percentage of GDP. Is the size of the fiscal deficit and national debt particularly large for some of these countries? For these countries, research whether this is causing any problems for these economies.

LINK Student Book 1, Chapters 30 and 40

## FISCAL DEFICITS AND FISCAL SURPLUSES

A **fiscal deficit** is when government spending is greater than its income (also called revenue) in a given year. A fiscal deficit means a government must borrow that year to finance its spending. A fiscal deficit is often measured as a percentage of a country's GDP. For example, Kenya's fiscal deficit in 2017 was 8.46 per cent of the value of its GDP. The Global Financial Crisis of 2007–08 led to large increases in fiscal deficits throughout the developed world.

A **fiscal surplus** is when government spending is lower than its revenue in a given year.

## FISCAL DEFICITS AND THE NATIONAL DEBT

**National debt** is the total borrowing of the government which remains to be paid to lenders. Fiscal (or budget) deficits or surpluses have a direct impact on the size of the national debt. If there is a fiscal deficit of, say, $20 billion in one year, then the national debt will increase by $20 billion. If there is a fiscal surplus of, say, $30 billion, then the national debt will decrease by $30 billion. An important point to understand is that a fall in the size of a fiscal deficit over time still means national debt will be rising. However, it does mean that national debt will be rising at a slower rate.

Fiscal balances and the national debt can be measured in two main ways. One way is to measure them in money terms, such as $10 billion. Another way is to measure them as a percentage of GDP, such as three per cent. The GDP measure is often more useful because it gives an indication of how easy it will be for the government to finance a deficit, or how easy it will be for the government to repay the national debt. Compare this to an individual. If a worker borrows $1000 and his income is $5000 a year, the debt incurred is very significant. At 20 per cent of his income, it could show he is in serious financial difficulties. If a worker borrows $1000 and his income is $100,000 a year, the debt is relatively trivial. At 1 per cent of his income, it is likely to be of little consequence.

National debt, as a percentage of GDP, can vary significantly between countries. For countries such as Saudi Arabia and the UAE, state ownership of oil reserves means a large source of revenue for the government comes from the sale of oil on export markets. This explains the relatively low levels of national debt, as a percentage of GDP, for these economies. In 2017, Saudi Arabia's national debt, as a percentage of GDP, was 17 per cent. In the same year, Japan's national debt, as a percentage of GDP, was 236 per cent.

When a government borrows money, it issues debt in the form of government bonds. Purchasers of these bonds have lent money to the government. In return, the holders of these bonds receive interest. The yield on a government bond is the interest rate paid to the holder of the bond. Purchasers of government bonds include pension funds, insurance companies, households and overseas investors.

## AUTOMATIC STABILISERS AND DISCRETIONARY FISCAL POLICY

**Automatic stabilisers** result from a set of rules, largely on welfare payments, income tax and goods and services tax, which influence how much the government spends and raises in taxation without any intervention by government policy makers. Automatic changes in fiscal policy instruments help to reduce variation in the economic cycle. Government spending and taxation are both automatic stabilisers. This means changes in government spending and tax revenue occur automatically as GDP changes.

When the economy goes into recession and unemployment rises, the government automatically increases its welfare payment spending, paying out more in unemployment benefits and other related benefits.

Tax revenues fall too at a faster rate than the fall in income. This is because income tax rates tend to be higher on marginal income than on average income. Income tax is a progressive tax in many countries. For instance, a worker paid on commission may sell less in a recession. His tax rate might then fall from a higher rate, such as 40 per cent, to a lower rate of 20 per cent. Also, in a recession, household spending or consumption falls. It is likely that luxury consumption will fall more proportionately than spending on more essential items. A value added tax, known in some countries as a goods and services tax (GST), has zero-rated items or much lower rates on many essential goods. When household spending falls, the reduced spending on non-essential or luxury items results in governments collecting less tax.

The effect of automatic stabilisers in a recession means aggregate demand falls less than it would without these stabilisers in place.

In contrast, when an economy experiences high economic growth, government spending falls as the total amount spent on welfare payments falls automatically. Tax revenue increases at a faster rate than the increase in income. An unemployed person will pay very little tax. When the unemployed get jobs, they start to pay substantial amounts of direct and indirect tax. So aggregate demand is lower than it would otherwise have been with these automatic stabilisers.

The opposite is **discretionary fiscal policy**. This is deliberate decision making by government to change rates of tax, introduce new taxes or change levels of government spending. For example, a government may make a policy decision to increase its infrastructure or health spending.

## ACTIVITY 1

SKILLS REASONING, INTERPRETATION, COMMUNICATION

### CASE STUDY: AUSTRALIA'S 'MAKE OR BREAK' BUDGET

In Australia, in May 2018, the government cut taxes to lower- and middle-income earners. Cutting the fiscal deficit and national debt had been a priority, but a rise in corporate and income tax receipts, due to a stronger than expected increase in commodity prices (commodities are a key export for Australia) and at strong jobs market had made it possible for the government to cut taxes.

The forecast is for the budget to return to surplus by 2019–20. The budget forecasts economic growth to increase from 2.75 per cent in 2017–18 to 3 per cent in 2018–19. Australia's national debt was predicted to peak at 18.6 per cent of GDP in 2017–18 and fall to 3.8 per cent of GDP by 2028–29.

**1** By using any relevant information in the extract to illustrate your answer:
- (a) What is the difference between a fiscal deficit and fiscal surplus?
- (b) What is the difference between a fiscal deficit and the national debt?
- (c) What is the difference between automatic and discretionary fiscal policy?

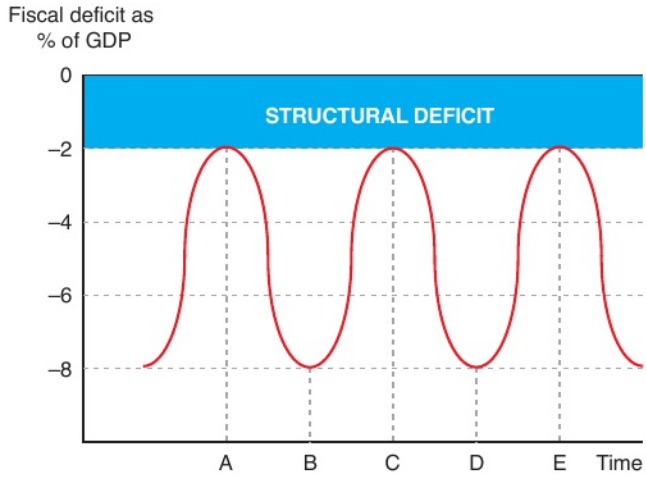
## CYCLICAL AND STRUCTURAL DEFICITS

The size of a fiscal deficit is influenced by the state of the economy. Because of automatic stabilisers, government spending and revenues vary depending on whether an economy is experiencing a period of negative economic growth or positive economic growth. Quite often an economy will experience changes in economic activity which follow a pattern. This is called a trade cycle. A trade cycle tends to have four phases. A peak or boom is when the economy is working at above full employment: the economy is overheating and national income is high. This is followed by a recession when economic growth is negative. When GDP is at its lowest level, the economy is in a slump. The final phase is economic recovery when economic growth is positive again.

A distinction can be made between cyclical and **structural deficits**. A **cyclical deficit** occurs because government spending and revenues change through the trade cycle. When the economy is growing quickly during a boom, spending on welfare benefits such as unemployment benefit is likely to be relatively low and tax revenues are likely to be relatively high. This pattern is shown in Figure 1.

**FIGURE 1**

**Cyclical and structural deficits**
There is a structural deficit in this economy of 2 per cent of GDP because the lowest level of the cyclical deficit is 2 per cent of GDP.




At time points A, C and E, the economy is in boom and the fiscal deficit is low at 2 per cent of GDP. When the economy is in a recession, at time points B and D, the fiscal deficit is large at 8 per cent of GDP. So, the range of the cyclical deficit is 6 per cent (8 – 2). At the peak of the boom, there is no cyclical deficit. At the bottom of the recession, the cyclical deficit has added 6 per cent to the actual deficit.

In Figure 1, at no point in the trade cycle is the budget in surplus. The best position it reaches is a deficit of 2 per cent. This 2 per cent then represents the structural deficit for the government. The structural deficit is the fiscal deficit which occurs when the cyclical deficit is lowest.

This means that the actual deficit is equal to the structural deficit plus the cyclical deficit.

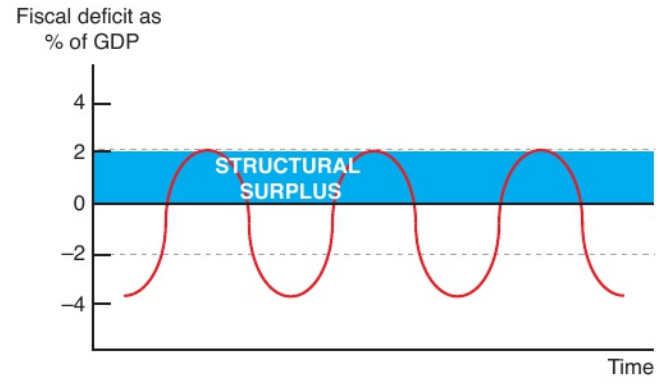
Actual deficit = cyclical deficit + structural deficit

In Figure 1, at point A, the structural deficit is 2 per cent and the cyclical deficit is 0 per cent. So, the actual deficit is 2 per cent. At point B, the structural deficit is 2 per cent and the cyclical deficit is 6 per cent. So, the actual deficit is 8 per cent.

Governments can also have structural balances or structural surpluses. A structural balance occurs when, at the peak of a boom, the actual fiscal balance is zero. A structural surplus occurs when, at the peak of a boom, there is an actual fiscal surplus. In Figure 2, the structural surplus is 2 per cent. This is because the cyclical surplus is 2 per cent at the top of the boom.

**FIGURE 2**

**Cyclical and structural deficits and surpluses**
There is a structural surplus in this economy of 2 per cent of GDP because the highest cyclical surplus is 2 per cent of GDP.




The structural fiscal deficit or surplus is sometimes called the 'cyclically adjusted' deficit or surplus. Cyclically adjusted means the effects of automatic stabilisers on government spending and taxation have been taken out.

If a government has a structural deficit, it is likely that the national debt will grow over time. This is because, whether the economy is in boom or in recession, it will still have to borrow money to finance its spending. Therefore, economists argue that structural deficits need to be eliminated. Governments should either raise taxes, cut government spending or both to eliminate the structural deficit.

Some economists argue that in practice it is impossible to calculate the cyclical or structural deficit of an economy. This is because trade cycles are not regular occurrences and they don't have the same size each time. For example, the financial crisis of 2007–08 was the worst recession for many countries since the Great Depression of the 1930s. It was not predicted by the majority of economists and politicians. Looking back, it is possible to see that many countries had structural deficits in the decade before 2007–08. However, at the time, economists and politicians assumed that many countries were

running structural surpluses. The debate is similar to the one about output gaps. An output gap is a very helpful economic concept. But some economists argue that it is impossible to measure accurately because no one knows exactly what is the productive potential of the economy.

## CURRENT BUDGET DEFICITS, PRIMARY BUDGET DEFICITS AND ACTUAL BUDGET DEFICITS

A distinction can be made between current expenditure and capital expenditure of government. Current expenditure is government consumption (such as day-to-day spending on education, defence, health services), welfare payments and debt interest. Capital expenditure is government spending on investment goods such as new roads, new schools or new hospitals.

A **current budget deficit** occurs when government revenues are less than current expenditure. The government is not covering even its day-to-day spending and has to borrow money for this. When the economy is in recession, there may well be a current budget deficit as the government attempts to increase aggregate demand. However, over the trade cycle, economists argue that the government needs to run a current budget surplus.

This is because governments must also invest for the future. The government faces the same choices as a household about how to finance investment. For example, a household might want to buy a new car. The car will be used over a number of years. Should it borrow the money and spread the payments over those years or should it pay the full sum at the start? If it borrows money, it will pay interest, so the overall cost is likely to be higher. But if it spreads the payments, this more accurately reflects how the use of the car is spread over time.

There are arguments for and against governments borrowing to finance their investment expenditure. With political pressure to keep taxes low, governments over the past 20 years have increasingly argued that at least a proportion of investment expenditure should be financed through borrowing. At the same time, over the trade cycle, there should be a current budget surplus. The surplus is then used to cover whatever investment spending will not be covered by borrowing.

A distinction can also be made between primary budget deficits or surpluses and actual budget deficits or surpluses. The **primary deficit** is the actual deficit but does not include interest payments on the national debt. Therefore:

Primary deficit + debt interest payments = actual deficit

If a government is in financial difficulties, it might find it difficult to borrow more money on the world financial markets. In order not to increase the size of the national debt, it then needs to run a **primary surplus** that is at least equal to debt interest payments.

## FACTORS INFLUENCING THE SIZE OF FISCAL DEFICITS AND SURPLUSES AND THE NATIONAL DEBT IN NOMINAL TERMS

Several factors influence the size of fiscal deficits and surpluses measured in money terms.

### STATE OF THE ECONOMY

Cyclical deficits and surpluses are caused by the effect of automatic stabilisers on the levels of government spending and tax revenue. They are out of the government's control in the short term. For example, a downturn in an economy is likely to automatically increase a government's spending on welfare payments and, at the same time, reduce tax revenue as tax receipts from direct and indirect taxation fall. However, the size of this cyclical effect will vary from country to country depending on welfare and tax systems.

The impact on government finances varies with the severity of the recession or the size of a boom. The 2007–08 financial crisis hit government finances hard because, for many developed countries, it was the worst recession experienced since the 1930s.

Discretionary fiscal policy is used by governments to deliberately manipulate economic activity. For example, in a recession a government might deliberately increase its fiscal deficit to provide an extra stimulus to the economy.

### DEMOGRAPHIC FACTORS

The size and age composition of the population may affect the size of the fiscal deficit. For example, if an economy has an ageing population, the government is likely to be under pressure to increase its spending on healthcare to maintain the quality of life for this age group. With increased medical advances and rising expectations of treatments available, government spending overall may rise as a result.

### RESPONSIBLE GOVERNMENT FINANCING

Many countries, both advanced and developing, are more aware of responsible government financing. As a result, either by choice or by terms dictated by institutions such as the IMF or, for Eurozone countries, the EU, governments have deliberately cut spending

and raised taxation to reduce fiscal deficits to target levels. For example, Indonesia has a fiscal deficit limit set at 3 per cent of GDP. In 2016 the Indonesian government deliberately reduced government spending to prevent the fiscal deficit becoming too large.

### TAXATION

The size of the tax base might increase if new taxes are introduced. This will reduce a fiscal deficit. For example, between 2014 and 2017, Malaysia's fiscal deficit (federal government deficit) fell from 3.4 per cent of GDP to 3 per cent of GDP. This was achieved through deliberate government expenditure cuts and the introduction of a goods and services tax in 2015. Equally the efficiency of tax collection might improve, for example through new technology. A government might also prioritise the reduction of tax avoidance and tax evasion. All these will help to reduce a fiscal deficit.

### ECONOMIC DEVELOPMENT

In developing countries, government spending may be linked to economic development. When the economy is doing well, there is a temptation on the part of government decision-makers to assume that it will continue to do well in the future. Borrowing a little more to finance a favourite spending project or provide a tax cut for core voters can become too attractive to resist.

### PRICE OF COMMODITIES

The tax revenue for some countries is heavily dependent on commodity prices. For example, for Saudi Arabia and the UAE, the amount of tax revenue in a year depends heavily on the export price of oil. For these countries the structural deficit will increase if a fall in the price of oil is sustained over time and not related to the trade cycle.

### DEBT INTEREST

Debt interest is part of a fiscal deficit or surplus. The larger the debt interest paid, the larger the deficit or the smaller the surplus. Debt interest is determined by two factors. One is the size of the national debt, the total amount the government owes to its creditors. The other is the rate of interest it has to pay on its debt. The higher the average rate of interest, the higher the debt repayments. New borrowing takes place at current market rates of interest.

The rate of interest paid on new borrowing will depend on two factors:

- the market rate of interest at the time
- the credit rating of the government; if the government is seen as being able to repay in the future, its credit rating will be high and it will be able to borrow at relatively low rates of interest; if the government is seen as being at risk of not repaying, then it will have to offer a relatively high rate of interest to cover that risk.

Strangely, it can be the case that a government increases its borrowing substantially and yet the total amount of interest paid on its national debt falls. This will happen if it is able to refinance part of its debt at much lower rates of interest. So, an increase in the national debt does not necessarily mean an increase in interest payments on the debt.

### UNFORESEEN EVENTS

Occasionally, governments have to respond to major unforeseen events which cannot be covered by monies set aside for these situations. Floods and other natural disasters are unlikely to have a high impact on, for example, France's government finances but they might have a devastating impact on a small economy such as Haiti or Jamaica. However, the financial crisis of 2007–08 showed that major economies can be at risk from unforeseen events. Between 2007 and 2009, many developed countries, such as the United Kingdom, were forced to nationalise (i.e. buy) banks and other financial institutions that were at risk of failing. These purchases are typically not seen on data relating to fiscal deficits in those years because they are excluded as 'one-off' items that would distort the usual pattern of fiscal balances. However, £60 billion used to prevent banking collapse in one year in the United Kingdom is an extra £60 billion added to the fiscal deficit for that year. Equally sales of state-owned assets (privatisation) would reduce a fiscal deficit.

## THE SIGNIFICANCE OF THE SIZE OF FISCAL DEFICITS AND NATIONAL DEBTS

The size of fiscal deficits or surpluses has implications for other economic variables.

### THE IMPACT ON INTEREST RATES

All other things being equal, a rise in government borrowing in a national economy should lead to a rise in market interest rates in that country. This is because the demand for borrowed funds rises relative to existing supply. The price of borrowed money is the rate of interest. So the rise in demand for borrowed funds leads to a rise in interest rates. This may crowd out private sector spending. However, this rise in interest rates may not happen for a number of reasons.

- The increase in government borrowing may be relatively small and so have a barely noticeable impact on interest rates.
- If the central bank is operating a policy of quantitative easing, the government is likely to be able to borrow more at virtually zero rates of interest.
- The government may borrow on international financial markets. This increases the potential supply of borrowed funds and so it may be able to borrow at no increase in interest rates.
- In a recession, government borrowing is likely to rise, but private sector borrowing will fall as investment and consumption fall. Reduced private sector borrowing reduces any impact on interest rates of higher government borrowing.

In 2010, some economists and politicians were warning that the growing national debt and fiscal deficits would reduce the credit rating of some governments. As a result, the interest rates these governments paid on their borrowing would increase significantly. Credit ratings for large companies and governments are given by private sector companies such as Moody's and Standard & Poor's. They estimate the probability that a company or a government will default on its debt, i.e. not pay interest on it or not pay it back on time.

- The best credit rating is AAA and the worst is D.
- Credit ratings influence the rate of interest at which companies and governments can borrow. The lower the credit rating, the higher the rate of interest savers demand to buy the bonds or debt issued.

It could be argued that the more debt issued by a company or a government, the lower should be its credit ratings. More debt equals more risk. However, in reality the situation is more complex:

- If a government or company has little debt in the first place, doubling its size is likely to have no impact on the risk of default.
- Equally, credit ratings are relative. Savers have to put their money somewhere. For example, the US and UK governments have never defaulted on their debts. Despite the fact that they borrowed significantly during the recovery from the financial crisis of 2007–08, they are seen by savers as very low credit risks.

## DEBT SERVICING

**Debt servicing** refers to the regular repayments which need to be made to the lender on outstanding loans. This includes interest repayments. It has been explained above that a rise in government borrowing is likely to lead to a rise in the amount of interest paid on the national debt as it grows in size. However, the impact on debt servicing depends vitally on the rate of interest on current borrowing. If interest rates are rising, debt servicing will considerably add to the fiscal deficit and to the national debt. If interest rates fall far enough, for example because of quantitative easing, then higher borrowing and a higher national debt could be associated with a fall in the total amount of interest paid on the national debt.

## ACTIVITY 2

SKILLS REASONING, INTERPRETATION, ANALYSIS

### CASE STUDY: THE US: TAX CUTS AND MORE GOVERNMENT SPENDING

The fiscal deficit of the US is increasing rapidly. Laws passed in December 2017 cut taxes by $1.5 trillion over 10 years, followed by a decision in March 2018 to lift the ceiling on discretionary spending over two years. The Congressional Budget Office (CBO) expects the fiscal stimulus to increase growth in 2018. Given the rising deficit, the CBO predicts the national debt will rise to nearly 100 per cent of US GDP at the end of the 2020s. As a result, public net interest payments servicing the debt will double as a share of GDP from 1.6 per cent in 2018 to 3.1 per cent in 2028. Government interest payments will be a bigger share of output than spending on defence as soon as 2024, according to forecasts. The CBO also said, 'Rising federal deficits are projected to crowd out investment throughout the next decade.'

1 Why are debt servicing costs expected to rise for the US government over the decade 2018 to 2028?
2 What is the CBO likely to have meant by 'deficits are projected to crowd out investment throughout the next decade'?

## INTERGENERATIONAL EQUITY

**Intergenerational equity** refers to fairness between different generations. Some economists and politicians have argued strongly that increasing fiscal deficits and national debts benefit current citizens at the expense of future generations. However, others argue that high fiscal deficits and national debts today do not create a problem for future generations. In fact, there are arguments to support both views.

If the national debt doubles today, it will be left for people 50 years from now to pay it off. What is important from year to year is the cost of financing the debt. The history of the past 100 years suggests that the national debt declines in relative value over time because of the effects of inflation, which slowly

decrease the real value of the debt. Time also allows GDP to rise significantly, making any interest payments more affordable to repay.

It is not necessarily the case that future generations will not benefit from an increasing fiscal deficit and national debt today.

There are several arguments to support the view that future generations suffer. If the real cost of financing the debt becomes too high, this will create a cost for future taxpayers – tax rates are likely to rise and government spending may fall. For example, future generations may experience cuts in welfare payments and the range and quality of public services may fall. Also, increasing fiscal deficits and national debt will cause rising interest repayments for the government. If interest repayments are a large proportion of government spending, this will create a high opportunity cost on other components of spending. This might negatively impact future generations. For example, if education budgets today are lower than they might otherwise have been, then this might limit the skills of the future labour force.

There are also arguments to support the view that future generations might gain from a high fiscal deficit and national debt today. If the deficit is used to finance long-term growth, then future generations will benefit. Living standards will potentially be higher for future generations. Investment in infrastructure today, such as new hospitals or schools, will benefit citizens in the future. Also, national debt today can benefit future generations through the wealth effect. Government bonds owned by households are assets. This wealth can be passed on to future generations. Holders of these bonds, through the generations, will continue to receive interest on this wealth.

Finally, there is an argument to support the view that current generations might benefit from a high fiscal deficit and national debt today. High government spending relative to low taxes is likely to benefit the current generation. For example, they might benefit from well-funded job creation schemes, high state welfare payments and care for the elderly paid for by the government.

The impact of fiscal deficits and national debts on intergenerational equity can therefore be debated. Those who support reducing the current fiscal deficit and national debt have supported 'austerity measures'. In some cases, government spending has been cut drastically and taxes increased in an attempt to reduce the fiscal deficit. This policy has caused some problems for particular age groups. If the economy slows down as a result of **fiscal austerity**, the youth unemployment rate often rises faster than overall unemployment rate.

In recent years, both young and old have been affected by economic events differently. However, much of this has been caused by factors not related to fiscal deficits and national debt. For example, young people entering the job market between 2008 and 2014 in many developed economies have found it difficult to get reasonably paid jobs. That has been a consequence of the financial crisis and not necessarily fiscal deficits or the national debt.

## FOREIGN DIRECT INVESTMENT (FDI)

Countries with very large fiscal deficits and national debts are more likely to have problems financing those deficits than those with low fiscal deficits and national debts. If a government has borrowed from abroad, it may struggle to obtain enough foreign currency to make repayments on its debts. One way of getting foreign currency is to increase inward foreign direct investment.

However, countries which have severe fiscal problems are more likely to see FDI decrease. This is because the economy may be going through a deep recession as the government cuts back on spending and increases taxes to deal with its fiscal problems. The recession is likely to make investment in firms producing for the domestic market deeply unattractive.

### CHECKPOINT

1. State the difference between a fiscal deficit and a fiscal surplus.
2. What is the distinction between automatic stabilisers and discretionary fiscal policy?
3. What is the distinction between a structural and cyclical fiscal deficit?
4. State three factors which influence the size of a fiscal deficit.
5. What is meant by the term 'debt servicing'?
6. If the size of the fiscal deficit increases, why are interest rates likely to rise?
7. State two reasons why interest rates might not rise if fiscal deficits increase.
8. State two reasons why an increase in the size of the national debt might cause inter-generational equity.

## SUBJECT VOCABULARY

**automatic stabilisers** mechanisms which affect levels of government spending and taxation, without any direct intervention by the government, when national income changes; they occur automatically and act to minimise fluctuations in actual GDP around the long-term growth rate

**current budget deficit** occurs when government revenues are less than current expenditure; it does not include government capital expenditure

**cyclical deficit** that part of the fiscal deficit which is caused by government spending and taxes changing through the trade cycle

**debt servicing** the regular repayments which need to be made to the lender on outstanding loans; this includes interest repayments

**discretionary fiscal policy** the deliberate manipulation of government spending and taxes to influence the economy

**fiscal austerity** tax rises or government spending cuts designed to reduce a fiscal deficit

**fiscal deficit** when government spending is greater than government revenue

**fiscal surplus** when government spending is less than its revenue

**intergenerational equity** fairness between different generations

**national debt** the total accumulated borrowing of the government which remains to be paid to lenders

**primary deficit or surplus** the actual fiscal deficit or surplus, not taking into account interest payments on the national debt

**structural deficit** that part of a fiscal deficit that exists even when the cyclical deficit is zero at the top of a boom

## THINKING LIKE AN ECONOMIST

### FISCAL POLICY IN DEVELOPING COUNTRIES

Most economists agree that government spending in times of high economic growth should be restrained. Once the economy is at full employment, an increase in aggregate demand will just be inflationary. In contrast, in times of recession, an increase in government spending can provide the necessary boost to aggregate demand. This is called counter-cyclical fiscal policy.

However, research shows that this pattern is not always followed by developing countries. Between 1960 and 1999, there was a positive correlation between government expenditure and real GDP for the vast majority of developing countries (developed countries, on the other hand, generally saw a negative correlation). In other words, during recessions, governments in developing countries reduced government spending and in times of booms, government spending soared.

This pattern is called pro-cyclical fiscal policy. There are a number of reasons which might explain pro-cyclical fiscal policy for developing countries:

- Firstly, political pressures and public expectation play a role. When economic growth is high, finance ministers find it hard to hold government spending back in the face of massive public demand. However, if fiscal deficits become too high, this leaves no room to increase spending further when a recession hits. In fact, at the very time a recession hits, it may be necessary to reduce government spending if national debt is too high and the fiscal deficit needs to be reduced. This is called a pro-cyclical trap.
- Secondly, some argue that capital markets make it difficult for developing countries to finance a fiscal deficit. Especially in a downturn, it can be difficult for these countries to borrow. This means government spending has to be cut back – and taxation increased – just as the economy needs the opposite.
- Thirdly, most developing countries lack any significant automatic stabiliser mechanism. This is largely because welfare payments, such as unemployment benefits, make up a low proportion of government spending compared to developed countries.

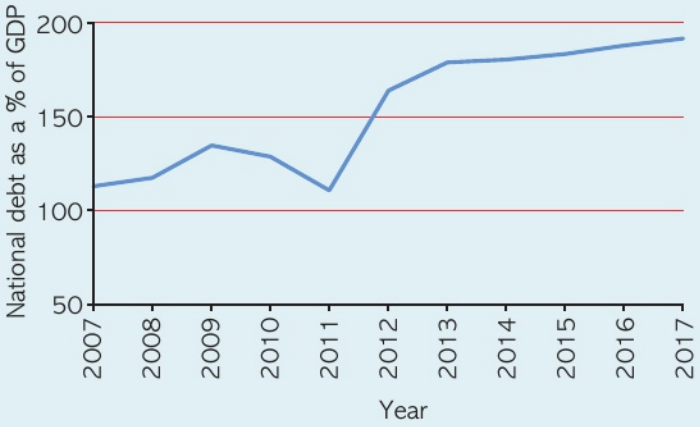
However, in recent years developing countries have become better at counter-cyclical fiscal policy. As reported by the World Bank in 2017, in response to the 2008 Global Financial Crisis, countries in Latin America using counter cyclical fiscal policy increased from 10 to 45 per cent of the region's economies.

Chile is a good example. Copper makes up about 16 per cent of Chile's fiscal income. In the past, Chilean governments were tempted to make overly optimistic predictions about future copper prices, leading to excessive government spending programmes. But Chile created an independent panel to predict future copper prices. From 2003 to 2008, the panel argued that the copper price increases were temporary – this prevented government spending rising wildly in the commodity boom. As a result, Chile had a fiscal surplus of almost 9 per cent when the price of copper was high. So, when the financial crisis hit, Chile had fiscal room – it could increase government spending and/or reduce taxation at the time it needed to create this injection.

# EXAM PRACTICE

SKILLS PROBLEM-SOLVING, REASONING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

# GREECE, BRAZIL AND NIGERIA'S FISCAL DEFICITS




▲ Figure 3 Greece: National debt as a % of GDP

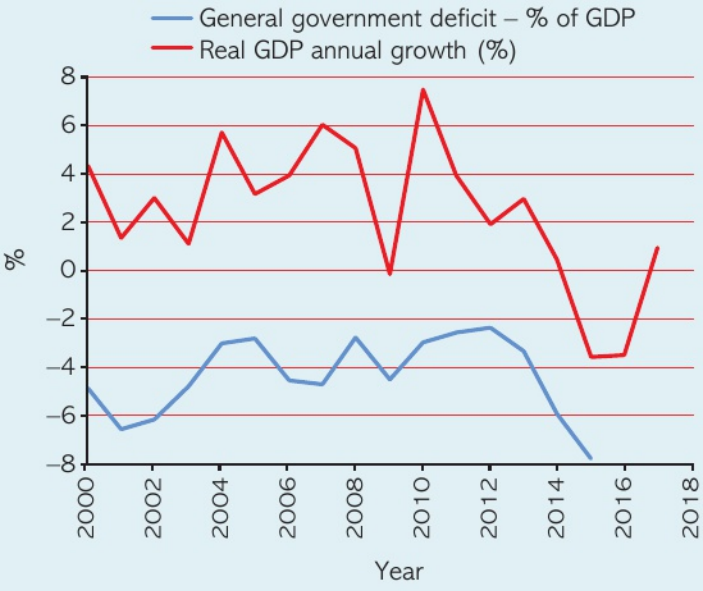
Source: OECD

## EXTRACT A: BRAZIL NEEDS FISCAL REFORM

Brazil is struggling to recover from the worst recession in its modern history. Real incomes per head were down 9 per cent between 2013 and 2016. Brazil has a huge structural fiscal deficit: the IMF thinks it will reach 11 per cent of GDP by 2022. Revenue is already close to 30 per cent of GDP. This should rise with the recovery, but not enough to close the deficit and bring the rise in national debt under control, since government spending is close to 40 per cent of GDP.

National debt in Brazil is running at close to 80 per cent, well above other emerging markets with similar credit ratings. Brazil's high interest rates mean the government wastes much of its tax revenue paying its creditors. Although wealthier savers gain, those on lower incomes, who would benefit from greater investment in infrastructure, education, public services and job creation lose out.

A central target should be pensions. The minimum benefit is the same as the minimum wage, which has risen by nearly 90 per cent in real terms over the past decade. Brazil's government pays almost 12 per cent of its GDP to pensioners, a bigger share than older, richer Japan.




▲ Figure 4 Brazil's economic growth rate and fiscal deficit (latest available data)

Note: General government deficit is defined as the fiscal position of government after accounting for capital expenditures.

Source: OECD

## EXTRACT B: NIGERIA'S FISCAL POLICY

In 2016 Nigeria fell into recession. The government said it wanted to borrow heavily to help the economy recover. The government's economic reform plans centred on 'a commitment to invest in developing Nigeria's infrastructure through a target 30 per cent annual budget commitment to capital expenditure'.

In 2017 government revenues were equivalent to just 5.7 per cent of GDP. A higher fiscal deficit combined with 'still tight domestic financing conditions' had raised bond yields and crowded out private sector credit. Nigeria's GDP growth was only 0.8 per cent in 2017.

**1** In Greece, there was negative economic growth in every year between 2008 and 2013. Using this information and Figure 3, which one of the following can be deduced? **(1 mark)**

(a) Between 2012 and 2013, the amount of money owed by households rose.

(b) Between 2012 and 2013, the total amount of money owed by the government to its lenders rose.

(c) Between 2009 and 2011, the total amount of money owed by the government to its lenders fell.

(d) Between 2009 and 2011, the amount of money owed by households fell.

**2** Read the extracts above and answer the following questions.

(a) In 2013, using the latest data from the World Bank, national debt as a % of GDP in Nigeria was 10.5 per cent. If the value of national debt, measured using the local currency unit, the Nigerian naira, was 8.5 trillion in 2013, calculate the value of GDP for Nigeria in 2013. **(2 marks)**

(b) Explain what is meant by the phrase 'structural fiscal deficit' (Extract A line 4). **(4 marks)**

(c) With reference to Extract A and Figure 4, analyse the likely effect of economic recovery in Brazil on its fiscal deficit. **(6 marks)**

(d) With reference to both Brazil and Nigeria, examine two factors influencing the size of a government's fiscal deficit. **(8 marks)**

(e) With reference to the information provided, discuss the problems for an economy if the sizes of the fiscal deficit and national debt are large. **(14 marks)**

**3** In 2018 the annual US budget deficit was expected to be greater than $1 trillion by 2020, even though economic growth was forecasted to be 2.8% in 2019. The last time the US had a budget deficit of more than $1 trillion was 2012, in the aftermath of the Global Financial Crisis. Evaluate the likely economic effects of running a high fiscal deficit on an economy. **(20 marks)**

**EXAM HINT**

In Question 2c, make sure you use and explain the concept of 'automatic stabilisers' in your answer.

**EXAM HINT**

In Question 2e, select a few key themes – such as impact on interest rates, debt servicing and intergenerational equity – and analyse the possible negative impact, making reference to relevant material in the extracts. Evaluate by considering what factors might minimise or reverse these negative impacts.

# 37 USING MACROECONOMIC POLICIES

UNIT 4
4.3.5

## LEARNING OBJECTIVES

- Understand how governments use fiscal policy, monetary policy, exchange rate policy, supply-side policies and direct controls to:
  - reduce fiscal deficits and national debts
  - control the rate of inflation
  - respond to external shocks in the global economy
  - reduce poverty and inequality

## GETTING STARTED

Pick a developing country of your choice. Research macroeconomic policies which have been implemented to reduce poverty and inequality in this country. The World Bank website may provide useful material on this.

## MACROECONOMIC POLICIES USED BY GOVERNMENTS

LINK Student Book 1, Chapters 39 and 40

Governments can use a range of macroeconomic policies to achieve their objectives. Monetary and fiscal policies were discussed in terms of their use in managing aggregate demand. Supply-side policies, both free-market and interventionist, were introduced as policies to increase long-run aggregate supply. The policies used by governments include:

**Fiscal policy** The use of taxation and government spending by the government to achieve its policy objectives.

**Monetary policy** The changes to monetary variables by central banks, such as interest rates and the money supply, to achieve their objectives.

**Exchange rate policy** The manipulation of the exchange rate to achieve policy objectives. Developing countries use a wide range of different exchange rate systems. As explained in Chapter 29, countries may manipulate their exchange rates, for example, to improve their current account position on the balance of payments, deal with problems caused by excessive fiscal deficits and national debts or encourage FDI flows. Some countries deliberately keep their exchange rate low in order to stimulate exports and drive economic growth.

Governments and central banks in developed countries mainly abandoned setting exchange rates in the 1970s. Since then, there have been a number of one-off interventions using currency reserves either to raise or depreciate the value of a currency. However, generally, changes in exchange rates have resulted from changes in monetary policy. For example, a fall in interest rates will depreciate the value of a currency. This then has an impact on international competitiveness, so influencing aggregate demand.

**Direct controls** Government measures that are imposed on the price or the quantity of a single product or factor of production. Examples of direct controls include:

- imposing a maximum price on a good such as bread, petrol or electricity
- setting a minimum or maximum wage
- fixing a quota on imports of beef
- limiting the amount of foreign currency a citizen can buy during a year
- fixing a maximum interest rate that **payday lenders** can charge their borrowers for small loans
- limiting the amount an individual can borrow for a mortgage.

**Supply-side policies** Government policies designed to increase the productive potential of the economy. Some supply-side policies can be classified as other policies. For example, reducing taxes on income is a fiscal policy which might be used to increase incentives to work. Reducing government spending on welfare or increasing government spending on infrastructure are also changes in fiscal policy used as supply-side policies.

## USING MACROECONOMIC POLICIES TO ACHIEVE OBJECTIVES

Macroeconomic policies were largely discussed in the Year 1 course as policies which can be used

to manage or manipulate either aggregate demand or aggregate supply. An understanding of **demand management** is assumed in this chapter. The focus of this chapter is to discuss how macroeconomic policies are used to:

- reduce fiscal deficits and national debt
- control the rate of inflation
- respond to external shocks in the global economy
- reduce poverty and inequality.

## POLICIES TO REDUCE FISCAL DEFICITS AND NATIONAL DEBTS

Most governments want the operation of fiscal policy to be sustainable in the long term so they aim to control the size of fiscal deficits and the size of the national debt.

Following the 2007–08 financial crisis, many developed countries were faced with increasing fiscal deficits and growing national debts. There is general agreement that, for developed countries, fiscal deficits above 3 per cent of GDP are likely to lead to growing national debts as a percentage of GDP. Sooner or later, the national debt becomes so large that the costs of financing it (i.e. the interest on the debt) present a serious problem for governments trying also to spend money on education, roads or welfare benefits. In extreme circumstances, such as those experienced by Greece after 2012, the debt becomes impossible to finance on a long-term basis. At that point, either the government of the country defaults on its debts, as many countries have in the past, or it has to be bailed out (provided money) by other governments or the IMF. Typically, some of the holders of the government's debts have to accept a write-down. This means they lose part of the value of their loan. There are two main ways in which governments can tackle fiscal deficits that are too large.

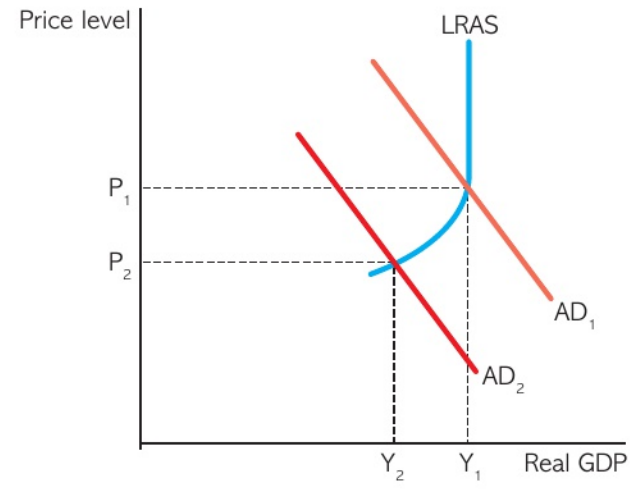
One is through **fiscal austerity**. The government cuts public spending or raises taxes or, more likely, does both.

- One problem with fiscal austerity is that it reduces the welfare of citizens both now and in the future. For example, higher taxes mean that households have less to spend. Cutting welfare benefits hits those receiving benefits who are, on average, likely to be the poor and the disadvantaged. This raises income inequalities. Cutting spending on roads or education is likely to reduce the future supply of physical and human capital, leading to lower economic growth in the future. Some economists and politicians argue that cutting public spending can be achieved entirely through cutting 'waste'. Free market economists tend to argue that provision of government services is highly inefficient. It is possible to cut public spending by, say, 20 per cent and have no impact on services provided. However, even if some of the cuts can be financed through 'efficiency savings', it is highly unlikely that large cuts can be made in the short term without cutting services and benefits.
- Another problem is that fiscal austerity causes, in the short term at least, a fall in GDP from what it would otherwise have been. The more severe the fiscal austerity measures, the greater the negative impact on GDP. If the economy is already in recession, this will make the recession even deeper. If the economy is recovering, it will knock back the recovery.
- A third related problem with fiscal austerity is that, in the short term at least, for every $1 cut in public spending or $1 rise in tax, there is a less than $1 cut in the budget deficit. Cuts in public spending or rises in taxes reduce aggregate demand. Unemployment will rise and economic activity will fall from what it would otherwise have been. The result is that welfare benefits associated with unemployment and low incomes will rise while tax revenues will fall.

The other way to reduce a fiscal deficit is for the government to do nothing and wait for the **automatic stabilisers** (or **built-in stabilisers**) to do their work.

**FIGURE 1**

Fiscal austerity is contractionary fiscal policy which reduces aggregate demand. Real GDP falls from $Y_1$ to $Y_2$.



This will only work if the fiscal deficit has appeared because the economy has gone into recession, i.e. the deficit is entirely cyclical and there is no structural deficit. If the government does nothing, the economy is likely to begin to grow again. This will increase tax revenues and reduce government spending. The fiscal deficit in (real) money terms will therefore fall. But it will also fall even faster as a percentage of GDP. With GDP growing and the fiscal deficit falling, the ratio of deficit to GDP will shrink.

Following the 2007–08 financial crisis, different countries followed different policies to tackle their deficits. Countries such as Greece, Spain and Portugal went into the crisis arguably with significant structural deficits. Their economies were badly affected by the downturn in the world economy and so they had high cyclical deficits. They had no choice but to introduce fiscal austerity measures because otherwise their deficits would have become uncontrollable. International lenders would also have not lent to them to finance their national debts.

Countries such as the UK, the USA, France and Germany did have choices. France and the USA chose mainly to allow automatic stabilisers and the rise in GDP to correct their deficits. The US economy recovered relatively rapidly which led to a significant improvement in its fiscal position. France before the financial crisis was struggling with low growth. Its response to its fiscal deficit was less successful because it still struggled with low growth after the financial crisis. So it had problems reducing its deficit as a percentage of GDP. The UK government between 2008 and 2010 did not introduce fiscal austerity measures as the economy recovered well from the financial crisis. A new government in 2010 reversed this and cut public spending and increased taxes. The result was much lower economic growth. This meant that government spending was higher than it would have been with fast economic growth. It also led to lower tax revenues than were forecast. By 2015, the fiscal deficit as a percentage of GDP was about the same as that of the USA. However, it had come at a considerable cost in lower national income and the fiscal deficit in money terms was still two-thirds of what it had been in 2010.

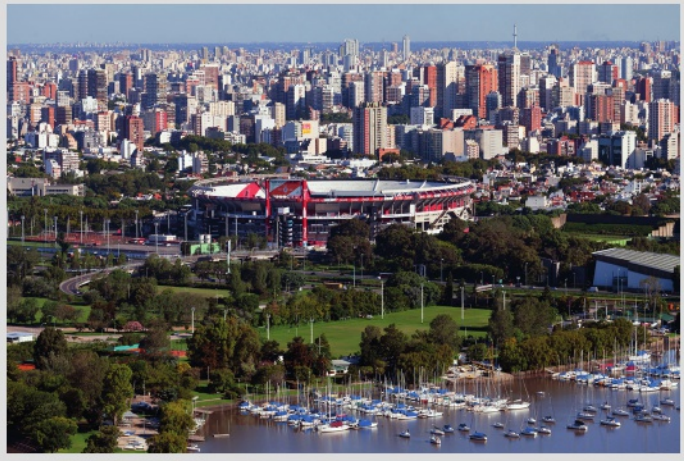
Governments have a variety of ways of reducing the national debt.

- Having a fiscal surplus will cut the debt in money terms.
- Balancing the government finances combined with economic growth will reduce the national debt as a percentage of GDP.
- Inflation will reduce the real value of the debt.
- If, as some economists argue, quantitative easing is a way of governments printing money to finance their deficits, then more quantitative easing will reduce the national debt held outside the central bank.
- Governments can default on their debts. The economic cost of this option to the economy is so large that governments only default when all other options have failed.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS, DECISION MAKING

### CASE STUDY: ARGENTINA PRESENTS AUSTERITY BUDGET PLAN TO CONGRESS



Argentina's economy minister presented his plans to congress to eliminate the primary fiscal deficit (fiscal deficit minus interest repayments) in 2019. The government intends to reduce transport and energy subsidies by 0.7 per cent of GDP, capital expenditure by 0.5 per cent, and transfers to provinces by 0.3 per cent. Meanwhile, export taxes of four pesos on every dollar exported will provide more tax revenue. One-off receipts from a tax amnesty will also increase revenues. On top of that, the government expects that measures to optimise the efficiency of government spending and the collection of taxes will help.

1 What might be the advantages and disadvantages for Argentina of its new austerity budget?

## POLICIES TO CONTROL THE RATE OF INFLATION

The implementation of monetary policy is the responsibility of central banks. In many developed countries, central banks are independent of government. In many developing countries, central

banks are effectively part of government with politicians deciding on the monetary policy that central banks will pursue.

Central banks traditionally influence interest rates through the rate of interest that they are prepared to lend to commercial banks or other money market institutions. This 'bank rate' then influences other rates of interest through the economy. Central banks may be able to set a bank rate that is influenced mainly by factors within its economy. For example, it may want to reduce inflationary pressures in the domestic economy and so it raises the bank rate, expecting the financial institutions to also raise their rates.

LINK Student Book 1, Chapter 40

Central bank control of inflation is today centred around interest rate policy. There is general agreement that central banks should allow inflation caused by supply-side factors (such as rising commodity prices or a falling exchange rate) to occur even if this puts inflation above its target rate. However, central banks should increase interest rates if there is a rise in demand-pull inflation.

Following the financial crisis of 2007–08, some central banks became more concerned about deflation than inflation. With interest rates as low as they could be, they turned to quantitative easing, buying up high-quality debt, much of it government debt, and issuing money in exchange. Quantitative easing and low interest rates have been used by many central banks to prevent deflation and try to raise inflation to its target level.

Controlling the rate of inflation might also be done using exchange rate policy. Central banks may be forced to consider global events. For example, the exchange rate of a currency may be falling because other central banks are raising their bank rates. Higher interest rates in other countries will increase the demand for their currencies, pushing up their price. For example, in response to the rise in interest rates in the US in 2018, the US dollar appreciated against other major currencies. If the central bank doesn't want to see a fall in the exchange rate of its currency, it may be forced to raise its own bank rate. This would help prevent both demand-pull and cost-push inflation which would be caused by a lower value in the exchange rate of its currency. Most central banks use changes in interest rates to directly control inflation; the indirect effect on exchange rates helps control inflation too. However, other economies use exchange rate policy more directly to control inflation – for example, by using foreign exchange reserves to directly manipulate the value of their currencies.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS

### CASE STUDY: TURKEY'S CENTRAL BANK HINTS AT RATE INCREASE

Turkey's central bank indicated it might be unable to maintain its much criticised policy of keeping interest rates on hold after data showed inflation rising to 17.9 per cent. The bank's official inflation rate target is 5 per cent. Inflation data released in September 2018 showed an annual increase of consumer prices approaching four times the official target in August. The bank warned that inflation figures, which also showed that producer prices rose at an annual rate of 32.1 per cent in August, posed 'significant risks to price stability'. Analysts warned that trust in the bank could be lost if it failed to follow its announcement with a significant interest rate rise.

**1** How would a rise in interest rates reduce Turkey's inflation rate?

## POLICIES TO RESPOND TO EXTERNAL SHOCKS IN THE GLOBAL ECONOMY

Macroeconomic policies can be used to address the effects of negative shocks to an economy such as a rise in commodity prices for commodity importers.

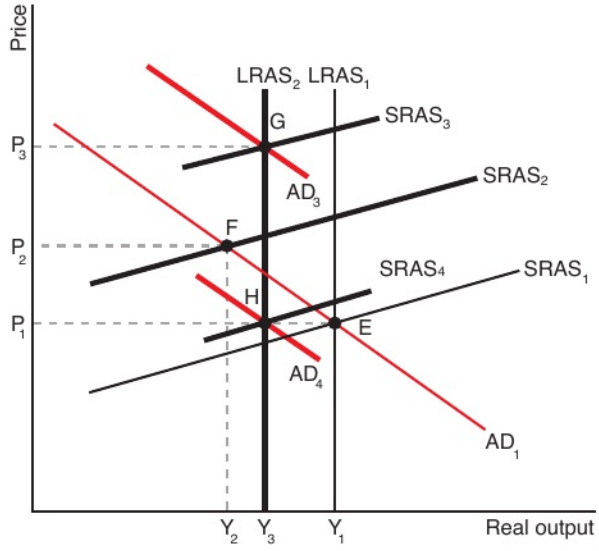
### COMMODITY PRICE SHOCKS

Assume the world price of oil triples in a year. This will provide a negative supply-side shock to any country that imports most or all of its oil requirements. In Figure 2, the economy is initially at point E. Output is $Y_1$ and there is full employment. The oil price rise shifts the SRAS curve from $SRAS_1$ to $SRAS_2$ leading to lower real output and higher prices at point F. In the long term, the oil price rise reduces the productive potential of the economy. This is because it makes

**FIGURE 2**

**A sharp oil price rise**

Government can respond to a sharp oil price with expansionary fiscal and monetary policies but this raises the long-run price level from $P_1$ to $P_3$. Or it can use deflationary fiscal and monetary policies, keeping the price level at $P_1$ but creating short-term unemployment as a result.




some equipment, such as oil-fired power stations or fuel-inefficient cars, uneconomic to run. They are removed from service earlier than they would have been if oil prices had remained lower. This shifts the LRAS curve from $LRAS_1$ to $LRAS_2$. Whatever policies the government pursues, ignoring the fact that economies tend to grow over time anyway, the long run equilibrium output has now fallen to $Y_3$.

Governments may respond in a variety of ways. One approach is to accommodate the oil price increase. This means accepting that prices will rise, attempting to get the economy back to full employment quickly and protecting household incomes. Governments can do this using fiscal policy, by raising their spending and cutting taxes, and monetary policy, by central banks reducing interest rates, so increasing lending and borrowing. These are examples of **reflationary policies** which shift the aggregate demand curve to the right. The danger is that a wage-price inflationary spiral will develop with workers fighting for pay rises to cover the increased inflation rate. The new long-run equilibrium level of output is $Y_3$. The result of expansionary fiscal and monetary policies might be eventually to shift the economy to the point G. The new price level is $P_3$ with the aggregate demand curve having risen to $AD_3$ and the SRAS curve to $SRAS_3$.

Another approach is for the government to attempt to remove the inflation caused by the oil price rise from the economic system. It can do this by using **deflationary** fiscal and monetary policies and moving the economy to the point H. By shifting the aggregate demand curve back to $AD_4$ and accepting a slight rise in the SRAS curve to $SRAS_4$, it can stabilise prices at the previous level of $P_1$. In the short term, this policy is likely to lead to a rise in unemployment and cuts in living standards of households. But, unlike the policy of accommodating the oil price crisis, inflation is kept to a minimum.

Alternatively, governments may pursue some middle course between these two policy alternatives. Whatever happens, the reality of a large oil price rise is that oil-importing countries will experience a cut in the GDP. That cut is the money that is transferred to oil exporting countries, raising their GDP. So equilibrium real output in oil-importing countries has to fall, all other things being equal.

### DEMAND-SIDE SHOCKS

A single economy may see its exports fall as a result of a fall in aggregate demand in other economies. This produces a demand-side shock as the fall in exports leads to a fall in aggregate demand. For example, the Great Depression of the 1930s saw many countries fall into recession because the USA, the largest economy in the world at the time, went into a severe recession. Another situation in which governments have had to respond to an external demand-side shock was the Global Financial Crisis of 2008. Demand-side policies which were used in response to this crisis are discussed in the next chapter.

## POLICIES TO REDUCE POVERTY AND INEQUALITY

Understanding the causes of changes in absolute and relative poverty (discussed in Chapter 32) will help governments implement policies to reduce poverty. Policies to reduce poverty and inequality include the following.

### POLICIES TO INCREASE ECONOMIC GROWTH

Policies to increase economic growth are likely to help reduce poverty. Reflationary demand-side policies, both fiscal and monetary, can be used to increase real GDP. Supply-side policies can also be implemented to achieve a long-term increase in real GDP. Both these will raise real GDP per capita.

## FISCAL POLICY

**Government spending targeted to those most in need** Although economic growth may be necessary to significantly reduce poverty, it is not always sufficient. Governments who make the biggest impact in reducing poverty will use government spending to support those with most need in their societies, for example, welfare spending directed to the poorest groups. However, free market economists argue that more government spending on welfare payments is not the best way to reduce inequality or poverty. They would say that lower welfare payments which encourage people to work, combined with job creation policies by the government, are the most effective way to reduce poverty.

In addition to welfare payments, a government may choose to target low income earners by direct provision of certain goods and services, such as free school meals. A government might also subsidise essential items, such as food or energy for heating. However, if middle and high income earners also benefit from these schemes, there is a high opportunity cost for spending by the government on these subsidies. Government spending on health and education will also have a big impact on poverty reduction as well as acting as supply-side policies which increase potential growth.

The extent to which governments should use spending to redistribute income is highly controversial. In Nordic countries such as Sweden and Denmark, there is widespread agreement that the state should provide a comprehensive welfare state, equalising provision of many services for its citizens. In free-market economies such as the USA, there is no general agreement about the role of the state. However, government provision of welfare benefits and services is much less than in Nordic countries.

**Use of taxation** Changes in the tax structure, which raise more tax revenue, should also provide more scope for government spending in areas such as education and training, which arguably have a big impact on poverty reduction. The tax system can also be used to redistribute income and wealth. For example, taxing those on high incomes more than those on low incomes produces a more equal distribution of income. Making the tax system more progressive will reduce inequality, but it is important to consider the possible impact on reducing incentives to work, which may reduce real GDP. This shows the problem for policy makers; sometimes a policy such as raising top income tax rates might achieve one policy objective, in this case a fall in relative poverty and inequality, but also slow down economic growth causing some to remain in absolute poverty longer than they might have done.

## DIRECT CONTROLS

Governments or central banks can also impose direct controls to reduce poverty and inequality. Direct controls are easy to understand and can be focused on a specific problem, such as poverty and inequality. In a developing country, for example, there may be health problems because poorer households cannot afford to buy important foods such as rice, maize or potatoes. To make these products more affordable, the government can set a maximum price below the current market price. In a developed country, there may be a problem with payday lenders. These are financial institutions which target low-income households, providing them with small loans at very high rates of interest. One way of dealing with exploitation of at-risk individuals is to set a maximum rate of interest that payday lenders can charge. In the labour market, some workers may be working for extremely low wages. A solution is for the government to set a minimum wage.

Direct controls work best when they successfully address a specific problem but do not lead to significant market distortions. Price controls on essential goods and services can be imposed. For example, maximum rents can be fixed, or a maximum price for bread, rice, petrol or electricity can be imposed. Private bus and train companies might have limits placed on their fares. These measures increase the spending power of those on low incomes. Maximum prices for essential food items work well when there is little impact on supply. However, if market distortions are large enough, then any benefit from the direct controls can be wiped out and indeed the problem can be made worse.

For example, assume a maximum price is put on rice and as a result the quantity of rice supplied falls by 25 per cent. Poor households may be able to afford to buy enough rice, but the 25 per cent fall in supply may mean it is not available to buy in the shops. Black markets are likely to develop where much higher prices are charged and even less rice will get into shops charging the maximum price.

Maximum wages can also be fixed to reduce inequality. For example, in a company, the maximum wage payable to the highest-paid worker could legally be 20 times the wages of the lowest-paid worker. Raising the minimum wage will raise incomes of the lowest paid workers. However, in the case of minimum wages, a minimum wage might be set so high that there is a significant negative effect on employment. Those who keep their minimum wage jobs are better off but a large number of other workers who become unemployed are worse off.

LINK Student Book 2, Chapter 20

## THE COSTS OF REDISTRIBUTION

Policies which reduce poverty and inequality will lead to higher economic welfare for some, but may also lead to lower economic welfare for others. There is an obvious cost to those in society who lose directly from increased taxation. Some economists argue that any taxation results in a loss of freedom. The taxpayer loses the ability to choose how to allocate those scarce resources which are now being taken by the state. Therefore, in a free society, taxation should be kept to an absolute minimum.

Classical or free-market economists would also suggest that redistribution involves heavy costs in terms of economic growth, employment and market inefficiencies. Raising income tax rates lowers the incentives of those in employment to work, thus reducing the growth rate of the economy. Higher taxes paid by employers on the wages of their workers discourage them from employing labour. Higher taxes on company profits reduce incentives to make profit and invest. High tax rates on income and profits can lead to capital and labour leaving the country. Firms may choose to move abroad to take advantage of lower tax rates, leading to a loss of domestic jobs and income. Overall, the higher the tax rate, the more incentives there are for taxpayers to use gaps in the law to avoid paying tax or simply to use illegal methods to evade taxes.

High minimum wages may discourage employers from taking on workers. Low maximum wages may discourage workers from taking on more difficult and responsible jobs. Top companies frequently argue that any limits on pay for top executives will simply lead to workers moving abroad and an inability to recruit workers with the right skills for important positions.

Maximum prices may lead to shortages and queues. Black markets often develop where goods and services bought at low maximum prices are sold at a higher price. Maximum prices also discourage production and investment. For example, if bakeries cannot make a profit on the bread they make because of maximum prices, they will cease production in the long term. The larger the gap between the free-market price and the maximum price, the larger will be the inefficiencies created in the market.

Free-market economists also use the concept of trickle down to support their views. This is the argument that increasing the wealth of the richest leads to gradual increases in income for the poorest. For example, a cleaner in a luxury goods shop only has his or her job because high-income earners can afford to spend $2000 on a handbag or £1000 on a pair of shoes. So everyone benefits when high-income earners earn and spend even more. To restrict the earnings of the highest paid would lead to unemployment and lower living standards for all.

However, the free market view of the costs of income and wealth redistribution represents one perspective. Other views suggest that redistribution can be beneficial and costs can be minimised. For example, the law of diminishing marginal returns suggests that taking resources away from an affluent individual to give to a poor person will lead to an increase in the combined utility of the two individuals. The free market view that redistribution of resources causes lower growth and gross market inefficiencies is also not supported by the evidence. Nordic countries such as Sweden and Denmark have enjoyed approximately the same rate of economic growth as the United States over the past 50 years.

## ACTIVITY 3

SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: FRANCE UNVEILS ANTI-POVERTY STRATEGY

In September 2018, Emmanuel Macron, the French president, announced an 8 billion euro initiative to tackle poverty. France has 8.8 million people living in poverty, equivalent to 14 per cent of the population, according to INSEE, the country's national statistics agency. One-third of the country's poor are children. An economist said, 'There is a desire by Macron to move away from pure financial support of the state (for the poor) towards a policy of helping people exit poverty and get into employment, to the benefit of the French economy.'

The plan also aims to guarantee children's rights to food, health and shelter through measures such as providing breakfast and 1-euro school meals in the poorest areas, and more emergency accommodation for women and children. In 2017, primary school class sizes in poorer areas were halved as a way of giving students more attention. 'The policy is to address the root of the problem in the long run, in other words the intergenerational poverty trap.'

1 Explain how these policies might help to reduce poverty.
2 What might limit the effectiveness of these policies?

## CHECKPOINT

1 What is a direct control?
2 What is fiscal austerity?
3 Outline two problems for the economy if a government uses fiscal austerity to reduce fiscal deficits and national debt.
4 Why does a rise in interest rates help to reduce inflation?
5 How would quantitative easing help to prevent deflation and push inflation upwards towards its target level?
6 How might a commodity-importing country respond to a rise in global commodity prices?
7 List a range of policies which would help to reduce poverty.
8 Why would a rise in the top income tax rate reduce income inequality?

## SUBJECT VOCABULARY

**automatic** or **built-in stabilisers** mechanisms that reduce the impact of changes in the economy on national income

**bailout** when financial support is provided to a company or a country facing a potential bankruptcy threat

**deflationary policies** fiscal or monetary policies aimed at reducing aggregate demand

**demand management** government use of fiscal or other policies to manipulate the level of aggregate demand in the economy

**direct control** a government measure that is imposed on the price or the quantity of a single product or factor of production

**exchange rate policy** the manipulation of the exchange rate to achieve policy objectives

**fiscal austerity** tax rises or government spending cuts designed to reduce a government budget deficit

**fiscal policy** the deliberate manipulation of government expenditure and taxes to influence the economy

**monetary policy** changes to monetary variables by central banks, such as interest rates and the money supply, to achieve its objectives

**payday lenders** lenders who give loans for small amounts to borrowers who are supposed to repay the loan on their next pay day or when they next receive their welfare benefit; users of payday lenders often find it hard to arrange credit elsewhere

**reflationary policies** fiscal or monetary policies aimed at increasing aggregate demand

**supply-side policies** government policies designed to increase the productive potential of the economy

# THINKING LIKE AN ECONOMIST

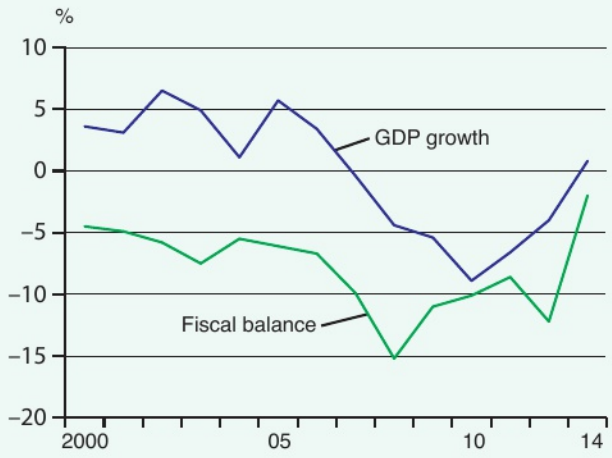
## ECONOMIC GROWTH IN GREECE

In the 1990s and the first half of the 2000s, Greece experienced strong economic growth (Figure 3 shows Greece's relatively strong growth in the first half of the 2000s). However, part of the growth was caused by excessive fiscal deficits. The financial crisis of 2007–08, which hit Greece just as much as other European countries, led to a recession. Tax revenues fell while government spending increased as economic theory would predict. An already bad fiscal deficit became even worse.

In 2009, Greece had the largest fiscal deficit in the EU with a rapidly rising national debt. At over 15 per cent of GDP, the fiscal deficit was more than five times the three per cent maximum permitted under Eurozone rules. Its rapidly rising national debt, at 128 per cent of GDP, was more than twice the 60 per cent Eurozone maximum limit. It became clear that the Greek government was highly unlikely to be able to repay its debts as they came due and to pay interest on those debts. The financial markets responded by pushing up the interest rates on Greek government debt and virtually refusing to lend any more money.

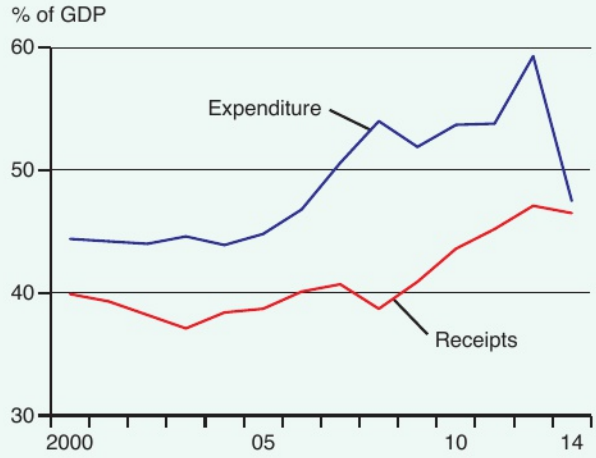
In 2010, the Greek government was forced to make an agreement with a group of three lenders – the 'troika'. These were the International Monetary Fund (IMF), the European Central Bank and the European Commission. Emergency loans were provided and there was some element of debt cancellation on the part of the EU. In return, the Greek government was forced to agree to a package of reform measures that cut government spending and raised taxes, shown in Figure 4. Even in 2010, it was clear that in the long term the package of measures would not fully resolve the Greek government's financial problems. At some stage in the future, there would have to be more debt cancellation, probably on the part of the EU.

By 2014, the Greek fiscal deficit was down to 2 per cent of GDP. It was also running a primary surplus (the fiscal balance excluding debt interest) of 3 per cent. However, it had come at a huge cost to the Greek economy – GDP was 25 per cent lower than




▲ Figure 3 Greece, growth in GDP (%) and fiscal balance as % of GDP

Source: adapted from www.oecd.org




▲ Figure 4 Greek government expenditure and revenues, % of GDP

Source: adapted from www.oecd.org

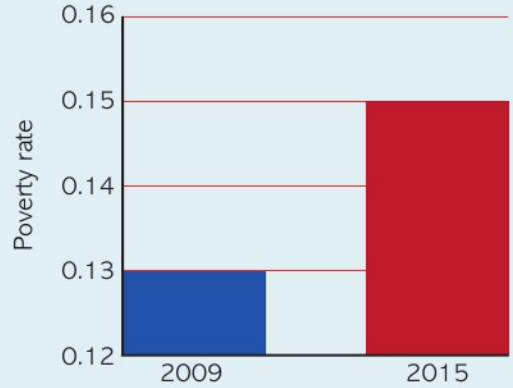
at its peak in 2008. The unemployment rate was 27 per cent. The international financial crisis of 2007–08 was partly responsible for these statistics. But mostly, they were the result of fiscal austerity.

In 2014, the Greek electorate voted in political parties committed to reversing the austerity programme. Many Greeks blamed their problems on the troika for pushing the Greek economy into such a deep recession. Most other countries in the EU had little sympathy for the Greeks. Portugal, Spain and Ireland had been through similar recessions and been forced to adopt fiscal austerity measures. They failed to see why, having experienced similar economic pain, the Greeks should not be forced to accept responsibility for the previous fiscal mistakes and continue to make sacrifices to stabilise their economy. Some northern European countries, including Germany and Finland, did not feel they should provide more loans to Greece. They were worried that there would be a continuous flow of never-to-be-repaid loans from their countries to Greece.

In the long term, Greece can only make real economic progress through further supply-side reforms and control of government finances. The mathematics of its national debt says that at some point in the future, lenders to the Greek government will have to be offered a cancellation of some its debt. The Greek economy is likely to recover, but it could take decades to get back to the prosperity levels seen at the start of the 2007–08 financial crisis.

# EXAM PRACTICE

## GREECE: THE FUTURE




▲ Figure 5 Greece: poverty rate

Source: OECD, latest available data 2015

The poverty rate is the ratio of the number of people who live in households whose income falls below the poverty line (taken as half the median household income of the total population) to the population as a whole

### EXTRACT A: THE NEXT STEPS FOR GREECE

Greece's exit from eight years of international **bailout** programmes in August 2018 followed years of austerity and an eight year recession. However, the end of the bailout does not end Greece's commitments to its international creditors. One of the most significant is that, in exchange for a major debt relief deal in June, the country needs to maintain a primary surplus – a measure of its budget balance that excludes debt repayments – of 3.5 per cent of GDP a year until 2022. Critics say this target limits the government's ability to cut taxes or take other growth policy measures. Greece's public debt stood at 178 per cent in 2017, by far the highest in the Eurozone.

## EXTRACT B: MACROECONOMIC POLICIES TO HELP GREECE

According to data published by the Greek statistical service, almost 35 per cent of the population was at risk of poverty in 2017. The unemployment rate, at just over 20 per cent, is almost three times the EU average. Unemployment is falling, but only slowly. A high proportion of new jobs are part-time which may not lift families out of poverty.

The government is determined to prevent more pension cuts taking effect in January 2019. The government has also announced tax breaks and higher social benefits, including a 30 per cent reduction in the annual property tax paid by homeowners, rent subsidies for low income families and a rise in the minimum wage. The government argues that these measures are possible due to improved tax collection and tighter spending controls elsewhere.

The government is planning cuts in corporation tax and value added tax, to take effect slowly between 2019 and 2022. There is also talk of the need to reduce the tax burden on middle-income earners. As one business manager said, 'Over-taxation of middle-income earners serves as a disincentive to the part of the population that is most productive and highly skilled.'

**1** Read the above extracts and answer the following.

(a) The population in Greece in 2009 was 11.2 million. Using Figure 5, calculate the number of people who lived in households whose income was lower than half the median household income. **(2 marks)**

(b) Explain what is meant by the phrase 'macroeconomic policies' in the Extract B heading. **(4 marks)**

(c) With reference to Extract A, analyse the likely impact on Greece's real GDP of fiscal austerity. **(6 marks)**

(d) With reference to the information available, examine the likely impact on economic growth in Greece of the tight fiscal target to maintain a primary surplus. **(8 marks)**

**EXAM HINT**

In Question 1d, think about how the fiscal rule limits the amount of money the government can inject into the economy using fiscal policy. Analyse why this constrains economic growth. Evaluation might include why the fiscal constraint might not be as damaging to economic growth as expected.

(e) With reference to the information available, discuss the likely impact of the planned policies, announced by the government in Extract B, on reducing poverty in Greece. **(14 marks)**

**EXAM HINT**

Extract B mentions different types of policy which are likely to have an impact on poverty reduction. In Question 1e, analyse how each policy might reduce poverty. Evaluate by considering what might limit the effectiveness of the policy in reducing poverty – Extract A will help with this.

**2** In 2018, the increasing use of tariff measures imposed by the United States against China was creating an external shock to China's economy. Evaluate demand-side policies which China could use to offset this external shock **(20 marks)**

**3** In 2018, Russia's central bank raised interest rates after inflation went higher than the central bank's predictions.
Evaluate the likely impact of higher interest rates on an economy. **(20 marks)**

# 38 IMPACT AND PROBLEMS OF MACROECONOMIC POLICIES

UNIT 4
4.3.5

## LEARNING OBJECTIVES

- Understand the use of demand-side policies in response to the Global Financial Crisis of 2008
- Understand the measures to control TNCs:
  - to reduce tax avoidance
  - the regulation of transfer pricing
  - limits to government ability to control TNCs
- Understand the impact of policy changes on:
  - local economies
  - national economies
  - the global economy
- Understand the problems facing policymakers when applying policies:
  - inaccurate information
  - risks and uncertainties
  - inability to control external shocks

## GETTING STARTED

In an economy of your choice, research any policy changes which have been announced over the last five years. For example, have interest rates increased or decreased? Has the government announced an increase or decrease in government spending? Have tax rates changed in any significant way? Why were these policy changes introduced? What impact have these policy changes had?

LINK Student Book 1, Chapter 40

## DEMAND-SIDE POLICIES IN RESPONSE TO THE GLOBAL FINANCIAL CRISIS

The Global Financial Crisis caused a demand-side shock to the global economy. This was discussed in detail in the 'Thinking Like an Economist' section in Chapter 33 of Book 1. The 2007–08 financial crisis severely tested governments.

### MONETARY POLICY

Following 2007–08, governments in countries such as the UK and USA, and their central banks, pursued expansionary monetary policies, cutting interest rates to almost zero. When this failed to stimulate spending sufficiently, they adopted policies of quantitative easing, buying up trillions of dollars between them of financial assets, most of which were government bonds.

The impact of the Global Financial Crisis was to make the supply of credit scarce. The objective of quantitative easing was to free up credit in financial markets in order to increase lending by commercial banks. Quantitative easing also puts downward pressure on long-term interest rates and the value of a currency. The overall impact should be to increase aggregate demand. It is generally believed that the rounds of quantitative easing did help to increase real GDP. However, critics argue that quantitative easing did not create the extra lending which might have been expected, since some financial institutions put aside the extra cash rather than increasing their lending.

These expansionary monetary policies benefited some groups in the economy at the expense of others. For example, those with 'tracker' mortgages – where interest rates on the mortgage change as market interest rates change – have benefited from the very low interest rates while savers have suffered. Quantitative easing remains a controversial policy. Some argue that it has done little to increase aggregate demand, which was its main purpose. Rather it has fuelled an increase in the price of assets such as shares and houses. Others argue that it has increased aggregate demand but the depth of the recession from the financial crisis has meant that it has been difficult to rebuild aggregate demand to its pre-2008 levels.

### FISCAL POLICY

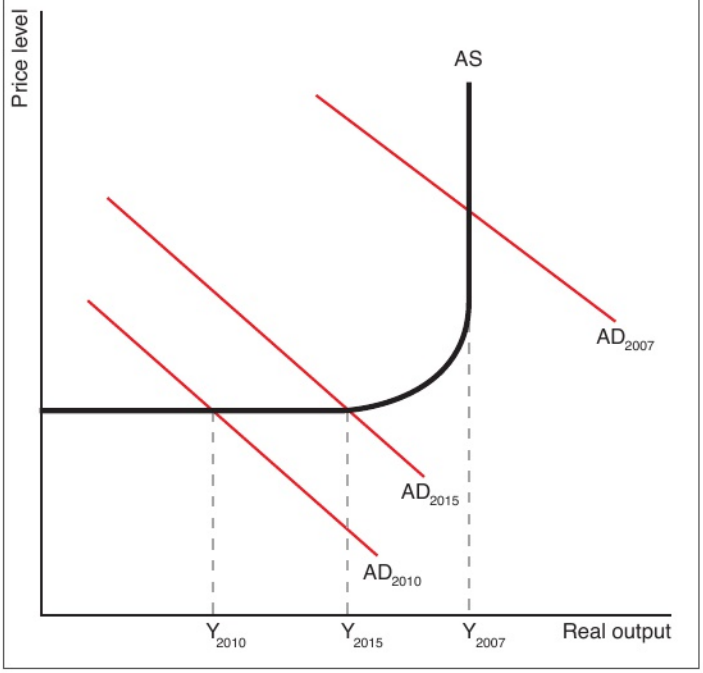
In the UK, fiscal policy became more expansionary in 2009 as a policy response to the crisis. This included

a reduction in VAT, more spending on infrastructure and training help for the unemployed. The US government followed an expansionary fiscal policy too, prioritising economic growth over cutting its large fiscal deficit. From 2010 onwards, the UK chose to prioritise cutting its fiscal deficit over economic growth. Within the Eurozone, Greece, Ireland, Spain and Portugal were forced to introduce deflationary fiscal policies because their fiscal deficits and national debts were too high. Countries such as France and Italy resisted fiscal austerity but high national debts and relatively high fiscal deficits meant they were unable to introduce the expansionary fiscal policies they would have liked.

Figure 1 shows the experience of a country such as Ireland over the crisis using a Keynesian aggregate supply curve. In 2007, the economy was at output $OY_{2007}$. The financial crisis of 2007–08 and the subsequent fiscal austerity measures significantly lowered equilibrium output to $OY_{2010}$. By 2015, the Irish economy was beginning to recover with increased aggregate demand leading to equilibrium output of $OY_{2015}$. However, this output was still below its 2007 level.

**FIGURE 1**

**The effects of fiscal austerity on an economy**
The financial crisis of 2007–08 moves equilibrium output from $OY_{2007}$ to $OY_{2010}$. The subsequent recovery increases output to $OY_{2015}$ but this is still below the 2007 level.




## ACTIVITY 1

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: THE US RESPONSE TO THE GLOBAL FINANCIAL CRISIS

The impact of the Global Financial Crisis on the US economy was significant. The first year of the crisis saw larger declines in real GDP than at the beginning of the Great Depression in 1929–30. The Obama Government implemented a number of important fiscal measures, notably the American Recovery and Reinvestment Act of 2009. This included tax cuts for businesses and more spending on health, education, welfare payments and infrastructure. The central bank also acted effectively, by reducing interest rates and introducing a quantitative easing programme. Some critics complained that the central bank policies risked **hyperinflation** (where the rate of inflation is more than 50 per cent per month). Others complained about the huge fiscal deficit caused by the crisis. However, many believe the response was effective. By the third quarter of 2016, the US economy was 11.5 per cent bigger than at its pre-crisis peak and real GDP per capita was 4 per cent above the pre-crisis peak, while that of the Eurozone was still below it.

1 How did expansionary fiscal and monetary policies, as a response to the Global Financial Crisis in 2008, help to increase real GDP in the US?
2 Outline the possible risks to the US economy from pursuing these policies.

## MEASURES TO CONTROL TNCS

LINK Student Book 2, Chapter 21

National economies often welcome the activities of transnational companies because they can create jobs, incomes, exports and tax revenues. Transfers of knowledge as well as foreign direct investment in

building new manufacturing plants or opening new outlets can also benefit countries.

Transnational companies, however, can also have a negative economic and social impact. Some transnational companies such as oil and mining companies can have a negative impact on the local and global environment. Transnational companies in industries such as food and entertainment are accused of destroying local culture and causing the loss of national identity. They can exploit countries with weak governments by taking out of a country far more in profits than they give. Transnational companies have a long history of using legal and illegal means to influence politicians and state officials to take decisions that will favour their interests rather than the interests of the local people and the country.

## REDUCING TAX AVOIDANCE

Many transnationals have structured their business to pay the minimum amount of tax possible by moving revenues and profits into low tax countries. Firms which operate in several countries (i.e. transnationals) are able to engage in **tax avoidance**. Tax avoidance, although legal, suggests a firm is deliberately manipulating the tax system to pay less than their 'fair' amount. Tax avoidance by TNCs was explained in Chapter 22. In 2015 it was reported that the cost of transnational companies deliberately avoiding tax exceeded $200 billion a year. It was estimated that developing countries lose three times more to tax havens than they receive in international aid each year.

Tax avoidance by TNCs is a problem for all countries. However, in developing countries, where tax revenue as a proportion of GDP is typically much lower than in developed economies, this loss of tax revenue limits development. Reducing tax avoidance would help these countries to increase investment in education, health and infrastructure, so lifting many out of poverty.

In 2015 all the OECD and G20 countries agreed to adopt new rules which would help to minimise tax avoidance. These included rules to prevent treaty shopping, which is the improper use of treaties to avoid tax. Often, developing countries had been forced to sign unfair treaties which meant companies paid tax elsewhere. Other new rules included fighting harmful tax practices, improving the resolution of tax disputes and implementing country by country reporting, which gives tax authorities information about where companies make their profits and pay their taxes. However, much remains to be done to set up an international tax system which eliminates tax avoidance by transnationals who will always have the resources to exploit any gaps in the law.

### ACTIVITY 2

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

**CASE STUDY: PLANS UNVEILED TO CRACK DOWN ON CORPORATE TAX AVOIDANCE**

In 2015 the OECD estimated that corporate tax avoidance, such as **transfer pricing**, was 4–10 per cent of global corporate tax revenues – equivalent to $100 billion to $240 billion a year. The impact was particularly damaging for developing countries.

1 What is meant by 'transfer pricing'?
2 Why is the impact particularly damaging for developing countries?

## THE REGULATION OF TRANSFER PRICING

LINK Student Book 2, Chapter 22

In 2015, more than 60 governments agreed worldwide measures to reduce tax avoidance. The proposals were to improve reporting, re-write laws where needed to prevent avoidance, and restrict the use of tax havens. Some of the new rules, such as changes to transfer pricing guidelines, were to be adopted immediately by some governments. By 2018 national laws to implement the OECD's 15-point action plan to cut aggressive tax avoidance were starting to come into force. So by 2019 it was hoped that the proportion of tax paid by transnationals would start to rise.

# LIMITS TO GOVERNMENT ABILITY TO CONTROL TNCS

Governments in the past have had some success at controlling unacceptable behaviour of multinational companies. These include:

- It is illegal for transnational companies operating in the EU or the USA to use bribery or corrupt practices anywhere in the world. A US-based transnational can be fined heavily by the United States government for using bribery to gain orders in, say, Nigeria.
- A number of developing countries don't allow transnational companies to set up in their countries without first setting up a joint company with a local partner. So at least some of the profits made are retained within the country. Also there is a transfer of knowledge and technology to local partners. This in future might create local competition with the transnational.
- Where a transnational wants to set up a manufacturing facility to make products for sale to individuals or firms in a country, the government in that country can negotiate deals where a proportion of the production is exported. This helps the country to earn foreign currency which can be used to pay for imports.
- Many contracts with governments involve clauses where the transnational has to manufacture at least some of the value of the order in the country. For example, a government may order 50 military aircraft from a transnational. The transnational then agrees that 40 per cent of the value of the contract will be manufactured in the country. Or a government may order 50 high speed trains on condition that they are assembled in the country. This means there is 'local content' in the order which offsets part of the cost to the economy.

However, controlling transnational companies is difficult for individual governments. Many small developing countries have a lower GDP than the total revenues of a single large transnational company. Large transnational companies are run by highly educated, successful executives who can draw on considerable resources to find solutions which will benefit them. Individual countries may be run by less talented individuals who don't have the resources to understand the impact a transnational is having on their economy.

Large countries too find it difficult to control aspects of the behaviour of transnational companies. For example, in the EU, some transnationals use legal tax avoidance schemes called the 'double Irish' and the 'Dutch sandwich', sending costs, revenues and profits through Ireland, the Netherlands and Luxembourg before sending them to a tax haven such as the Bahamas or the Cayman Islands. Ireland, Luxembourg and the Bahamas benefit greatly from these tax schemes. The problem is that every other EU country loses out, as does the United States, where many transnational companies are based. These losses are very considerable: for every $1 gained in extra taxes by Luxembourg, for example, other countries are collectively losing up to $1000 in tax revenues.

## THE IMPACT OF POLICY CHANGES ON DIFFERENT ECONOMIES

Any policy change by a government, whether it is fiscal policy, monetary policy, exchange rate policy, supply-side policy or direct controls is usually designed to have an impact on the domestic economy. Sometimes, the impact might be more strongly felt on a region within the economy. In other cases, the policy change will be expected to affect the economy in general. For some countries, a policy change will have an impact on the global economy as a whole. For others, there is still likely to be an impact on some other countries.

### THE IMPACT OF POLICY CHANGES ON LOCAL ECONOMIES

Sometimes a policy change will affect particular cities, districts or parts of an economy more than others. For example, if the government decides to build a

### ACTIVITY 3

SKILLS

SKILLS TAGS: REASONING, ANALYSIS

#### CASE STUDY: KUWAIT ECONOMY USING SUPPLY-SIDE POLICIES TO DIVERSIFY

The Kuwait government sees attracting foreign direct investment as key to economic diversification plans. This was outlined in its Kuwait Vision 2035. To attract more FDI, the government has carried out reforms in recent years. Significant law changes mean foreign investors are allowed up to 100 per cent full ownership anywhere in Kuwait, not just in special economic zones. Incentives such as tax holidays of up to 10 years and customs exemptions (where tax does not need to be paid on certain categories of goods) were also introduced. Investors are being invited to join projects in sectors such as information and communications technology, oil and gas, renewable energy, electricity and water, urban developments and housing, education, healthcare, transport and tourism. The FDI focus is on high quality investments. 'We're focusing on investments that helps us to attract new technologies and innovations and that brings added value to the Kuwait economy.'

**1** What is the likely impact on Kuwait's economy of its recent policy change to attract more FDI into Kuwait?

new airport, this is likely to lead to a local multiplier effect. With transport infrastructure improved in the region, new firms will be attracted to locate in this region. Money will be injected into the local economy. Another example might be rural development policies used by developing countries. These are policies which are designed to improve living standards in rural areas. They might be government spending projects on education which help those who work in low productivity agriculture to become more occupationally mobile. Spending on infrastructure, such as flood defence schemes, is also an example of a government policy which is likely to particularly improve a local area within a country.

### THE IMPACT OF POLICIES ON NATIONAL ECONOMIES

Governments usually make policy changes to influence the economy as a whole. For example, a fall in income tax rates should have a positive multiplier effect throughout the economy. A government will make policy changes to try to achieve its macroeconomic objectives: economic growth, low unemployment, low and stable inflation and balance of payments equilibrium on the current account. Policies will aim to influence aggregate demand and aggregate supply in such a way that real GDP increases without causing inflation.

### THE IMPACT OF POLICIES ON THE GLOBAL ECONOMY

Any policy changes made by large world economies, such as China and the United States, are likely to have an impact on the global economy. China's economy is moving from growth based on exports towards consumption-led growth. This policy change is likely to affect many other countries. Rising consumption in China will mean export-led growth for many other countries in the world. Policies which increase economic growth in China also tend to have a direct impact on commodity prices. This in turn benefits commodity exporters throughout the world. Since the election of Donald Trump as the president of the United States, the US has increased protectionism measures. As a result, other countries, such as China, have introduced equivalent measures in response. This is likely to have a significant impact on global economic growth.

Even if a country is not large enough to have a significant impact on global economic growth, it is likely to have some impact, for example, on its main trading partners.

## PROBLEMS FACING POLICY MAKERS

Policy makers such as governments face many problems when making decisions. These problems include the following.

### INACCURATE INFORMATION

The information that policy makers hold can be inaccurate. This may be because some of the information is very difficult to collect. For example, first estimates of GDP figures for the previous month can be inaccurate by several per cent, because it is not possible to collect accurate data within such a short time period. As more data comes in, GDP figures are revised and a more accurate picture emerges.

Another example is tax evasion. Some governments today are making it a priority to collect taxes from individuals and companies who are illegally evading tax. A government may declare in its budget that it will raise $1 billion in extra taxes by targeting tax evasion. The problem is that, because of the nature of tax evasion, the government can only estimate how much extra revenue this might raise. It will have no clear picture of how much money is invested in illegal schemes because those involved are deliberately trying to prevent the government from getting that information.

Information may also be inaccurate because it is out of date. For example, central banks are likely to base their interest rate decisions on past data. However, trends in the economy may be changing, so past data will give an inaccurate picture of where the economy is currently heading.

### RISKS AND UNCERTAINTIES

The future is always uncertain to some degree. Some uncertainties are fairly easy to predict. For example, clothes sellers never know for certain how extreme their seasonal temperatures will be, particularly in countries where the weather is very different year on year. This directly affects the type of clothes sold and when. Making the wrong decision about orders could leave retailers with many unsold types of clothing, or with some clothing being out of stock when they could have sold far more. Other uncertainties are less predictable. In 2016 UK citizens voted to leave the EU. At the time of writing, the Brexit deal with the EU is still being negotiated: it is not known what trade deal will be made or even if the UK will end up trading with the EU on WTO rules alone. Policy makers are trying to predict the likely impact on the UK economy under different assumptions, but it is hard to know how individual firms, consumers and governments, both

in the UK and in the EU, will respond as a result of any changes when the UK leaves the EU. Some risks could have severe implications for the UK economy. For example, what will happen if foreign companies move out of the UK as a result? What will happen if the EU introduces tariff and quota barriers against UK exports? Managing risk successfully is essential for good decision making.

## ACTIVITY 4

SKILLS REASONING, ANALYSIS, INTERPRETATION

### CASE STUDY: STORMY TIMES AHEAD FOR EMERGING ECONOMIES

The risks for Asian emerging markets seemed to be increasing in 2018, for two reasons. Firstly, the US Federal Reserve Bank's intention to keep raising interest rates was weakening the value of currencies in many emerging economies. For example, by September 2018 the value of the rupiah in Indonesia had fallen by 9.1 per cent against the dollar during the year. This was the weakest level since the 1998 Asian financial crisis. The fall in the value of currencies in emerging economies is particularly a problem for those who have depended on foreign borrowing. If government bonds are sold to foreigners and repayments are in dollars, then the rise in the value of the dollar increases the cost of government borrowing. This would also make foreign lenders more nervous about lending to these markets. A weaker currency will be a concern for those emerging economies who already have high inflation. Higher US interest rates also encourage capital flight.

Secondly, risks in Asia were increasing because of increasing trade tensions with China. Seema Shah, a strategist at Principal Global Investors, warned that repeated rounds of US tariff increases would not only damage growth in China but would also affect the rest of Asia through the integration of global supply chains.

1 What were the problems facing many policymakers in Asia when making decisions during 2018?

## EXTERNAL SHOCKS

**External shocks** cannot be controlled by national governments. In 1974–75, for example, the world experienced its first oil crisis as OPEC increased the price of oil from $2 a barrel to $11 a barrel. This created large inflationary pressures in oil-importing countries. In 2007–08, economies were thrown into the worst recession since the 1930s by the financial crisis starting in the US but spreading through the international financial markets into Europe and other parts of the world. The risk of external shocks is increasing over time as globalisation deepens, for example, as supply chains become global. This makes it more difficult for policy makers to control events and pursue their policies successfully.

## CHECKPOINT

1 What was the United Kingdom and United States policy response to the Global Financial Crisis of 2008?

2 Why is reducing tax avoidance by TNCs important?

3 State two reasons why governments might find it hard to control TNCs.

4 Give an example of a policy change used by an individual economy which had an impact on the global economy.

5 What problems face policy makers when making decisions?

## SUBJECT VOCABULARY

**external shock** a demand-side or supply-side shock to an economy which has been caused by factors outside the individual country's control

**hyperinflation** large increases in the price level

**regulation of transfer pricing** rules made by governments on transfer pricing to ensure the amount of profits paid by TNCs is 'fair'

**tax avoidance** when an individual or firm deliberately manipulates the tax system to pay less than the 'fair' amount

**transfer pricing** an accounting technique used by transnational companies to reduce taxes on profits by selling goods at a low price internally from a high-tax country to another part of the company in a low-tax country

## THINKING LIKE AN ECONOMIST

### THE IMPACT OF THE ECB'S QUANTITATIVE EASING PROGRAMME ON INEQUALITY

As a policy response to the Global Financial Crisis of 2007–08, the European Central Bank (ECB) began a 2.5 trillion euro quantitative easing programme. This policy, which involved the central bank buying bonds, was attacked by critics. They said the policy had widened inequality by raising the price of stocks and bonds owned by the wealthy, while less well-off savers earned low returns. Critics also argued that the record-low interest rates, part of the ECB's monetary policy, fuelled a house price bubble. This would also have benefited wealth holders, in this case homeowners.

However, in research published by the ECB in 2018, the Bank argued the opposite. By lifting growth and inflation, it said, the policy had helped the Eurozone's least well-off by creating jobs. The Bank called the reduction in unemployment and the increase in labour incomes the 'indirect effect' of its policies.

'On the whole we find that monetary policy in recent years benefited most households and did not contribute to an increase in wealth, income or consumption inequality.'

The ECB claimed that its policies helped to create about eight million jobs and that Eurozone unemployment had fallen to close to pre-crisis levels, faster than many economists had forecast. The ECB said the 'indirect effect' dominates. Quantitative easing had reduced inequality, mainly through a reduction of the unemployment rate of poorer households.

## EXAM PRACTICE

SKILLS REASONING, PROBLEM-SOLVING, INTERPRETATION, ANALYSIS, CRITICAL THINKING

# PROBLEMS FOR POLICY MAKERS

### EXTRACT A: VIEWS DIFFER ON THE VALUE OF FISCAL DEFICIT REDUCTION

In response to the Global Financial Crisis, there was general agreement in 2008–09 that government borrowing should be allowed to rise. But by 2010, with economic growth returning, policymakers did not want fiscal deficits and national debt to get out of control.

At the time many economists agreed, but views have now changed. 'We've learned over the past 10 years that fiscal policy can have pretty powerful effects in deep recessions when central banks have hit very low policy interest rates,' said Alan Auerbach, professor of economics at Berkeley. 'We've also learned, at least from the experience in the UK and the US, that we would have benefited from turning less immediately to measures aimed at fiscal deficit reduction.'

'Economies do not self-stabilise,' said Olivier Blanchard, senior fellow at the Peterson Institute for International Economics.

But politicians in the developed world still stress the importance of reducing government deficits and cutting debt, particularly if there appears to be little

▲ **Figure 2 United Kingdom and United States: Real GDP annual growth rate**

Source: OECD

spare capacity in the economy. And, although interest rates on debt issued by many governments, including long-term debt, remain extremely low, policy makers say they cannot rely on this being repeated.

## EXTRACT B: THE CHALLENGE LOOMING FOR CENTRAL BANKS IN 2018

In December 2017, three major central banks made monetary policy decisions. The US Federal Bank raised interest rates for the third time that year. The European Central bank left its quantitative easing policies in place but confirmed plans to reduce asset purchases from January 2018. The Bank of England suggested that interest rates were likely to rise again in 2018.

However, the decisions the central banks must take in 2018, over the speed and degree of monetary tightening, will be hotly debated. Some economists worry that removing the stimulus too early will restrict growth too much. For monetary policy makers, tightening too fast is a risk because of the ongoing absence of inflationary pressures. The Federal Reserve Bank has chosen to start tightening monetary policy, assuming that higher inflation will follow the improvement in jobs and growth in the US. There is not much sign of this yet.

The ECB's latest forecasts show inflation still below target in 2020, even if interest rates remain at historic lows.

Meanwhile, the rise in US interest rates and therefore the US dollar, was putting pressure on emerging economies. For example, in May 2018, Indonesia's central bank raised interest rates for the first time in four years, due to concerns about capital flight. An analyst at BNP Paribas said he expected the Bank of Indonesia to raise rates twice more in the coming months, despite the impact on economic growth.

Q

1 Expansionary fiscal and monetary policies were used as a response to the Global Financial Crisis of 2008. Which one of the following would show that expansionary policies were used? **(1 mark)**
   (a) Fiscal deficits fell for governments during the crisis.
   (b) Government spending rose at a slower rate than tax revenue.
   (c) The central banks bought financial assets, from commercial banks, in exchange for money to increase availability of credit.
   (d) Interest rates rose during the crisis.

2 Read the above extracts and answer the following.
   (a) Explain what is meant by the phrase 'fiscal deficit reduction' (Extract A). **(4 marks)**
   (b) With reference to Extract A, examine the likely impact of expansionary fiscal policy in 2008/09, as a response to the Global Financial Crisis, on real GDP. **(8 marks)**
   (c) With reference to Extract B, analyse the likely impact of the rise in US interest rates on the Indonesian economy. **(6 marks)**
   (d) With reference to the information available, discuss the problems facing policy makers. **(14 marks)**

3 In 2009, the US signed a fiscal stimulus plan worth almost 6 per cent of that year's GDP.
Evaluate the use of fiscal policy to stimulate the economy during a period of weak economic growth. **(20 marks)**

### EXAM HINT

In Question 2d, think about the sort of information policy makers lack when they are considering whether, and to what extent, they should increase their fiscal deficits. Why might it be difficult for policymakers to know whether they are tightening their monetary policy too much? What are the risks and uncertainties when applying policies? Why were policy makers facing particular problems in 2018?

### EXAM HINT

In Question 3, analyse the likely impact of expansionary fiscal policy on real GDP. Give real world examples; for example, use your knowledge of expansionary fiscal policy used by the US in the Global Financial Crisis of 2008. For evaluation, consider some of the problems a fiscal stimulus might create for the economy? When would a fiscal stimulus be particularly advantageous? What are the problems policy makers would have faced in making this decision?

# GROWTH AND DEVELOPMENT IN DEVELOPING, EMERGING AND DEVELOPED ECONOMIES

Average incomes vary significantly between countries and all economies want to progress to higher levels of economic development. Understanding the distinction between economic growth and development is important. This section explains this and then goes on to consider how economic development is measured. Following this is a discussion of the many factors which constrain economic growth and development. How governments might promote growth and development is then explored.

# 39 MEASURES OF ECONOMIC DEVELOPMENT

UNIT 4
4.3.6

## LEARNING OBJECTIVES

- Understand the meaning of development and the distinction between economic growth and economic development
- Understand the three components of the Human Development Index: education, health and income; and how they are measured
- Understand what the Human Development Index tells us about a country's development
- Understand the advantages and limitations of the HDI as a measure of development
- Understand other measures of development

## GETTING STARTED

Choose three different economies which you think are at different stages of development. Using the open data search section of the World Bank website, find information about indicators such as GNI per capita, health, education, access to mobile phones, access to the internet, employment in agriculture and life expectancy to help you compare these economies.

## GROWTH VS DEVELOPMENT

In the 1950s and 1960s, there was an assumption among economists that economic growth and **economic development** were closely linked. High economic growth would lead to fast economic development and vice versa. Economic growth is relatively simple to measure. It is the rate of change of national income, as measured, for example, by GDP or GNI. It describes changing output, expenditure and income in the economy. However, economic development is a much wider concept than economic growth. Economic development suggests an increase in the quality of life and wellbeing for citizens.

Most people agree that good health is central to their wellbeing and their ability to lead fulfilling lives. Education is also important because it provides individuals with capabilities to make choices about their lives which matter to them. A rise in real GDP per capita is likely to lead to economic development, because an increase in material living standards is one aspect of improving people's quality of life. However, if health and education outcomes, such as life expectancy and literacy rates, remain the same, the impact of economic growth on development will be limited.

Economic development is also concerned with how additional GDP is distributed. For example, if most of the growth in GDP is taken by the top 10 per cent of earners, economic growth is limited.

Therefore, the distinction between economic growth and economic development is important if policy makers want to make people's lives better.

Countries are often classified as being at a low level of economic development, medium level of economic development, high level of economic development or very high level of economic development. Clearly a country with widespread absolute poverty and indicators such as death from malnutrition or easily preventable diseases, will be at a low level of economic development

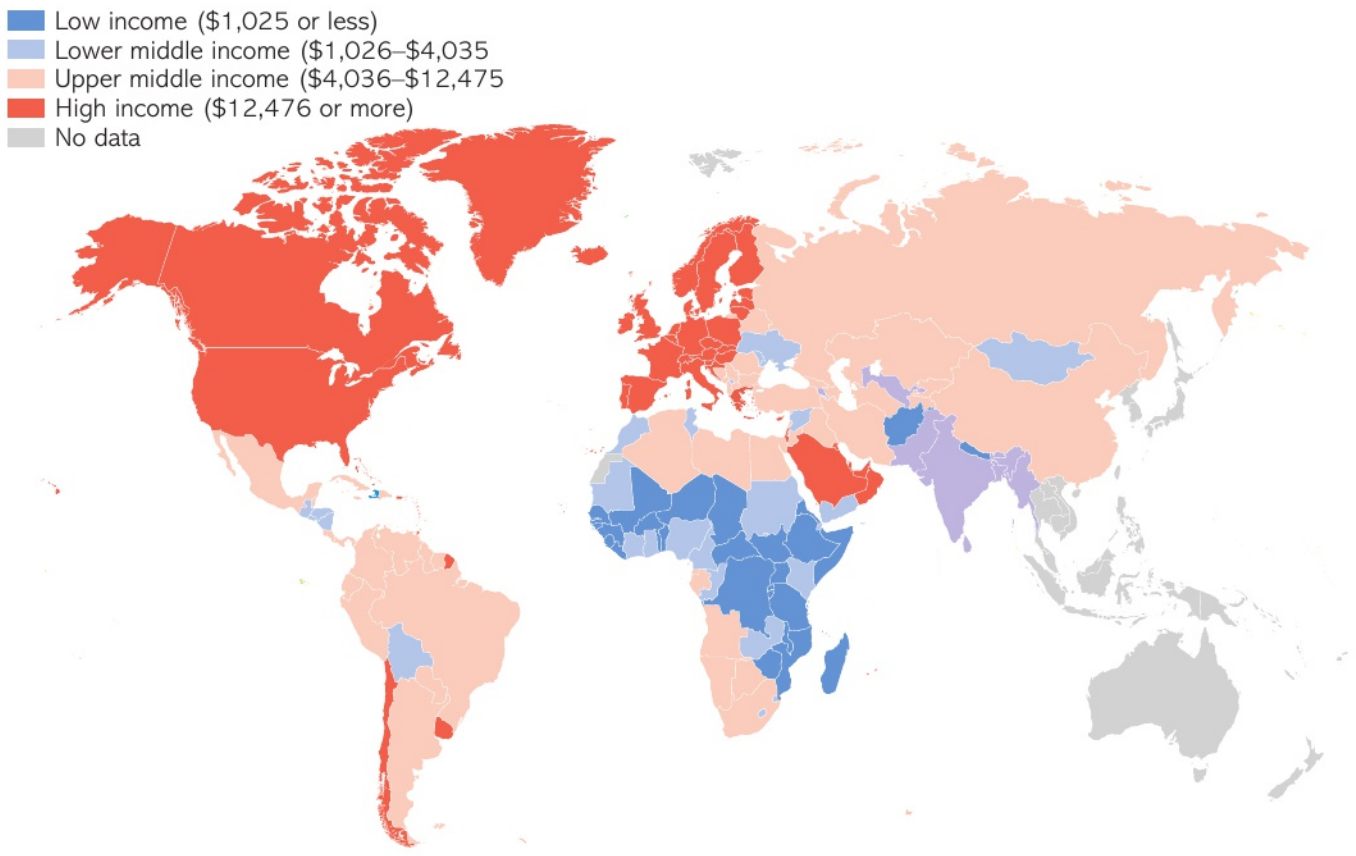
Because the measurement of well-being, quality of life and living standards is complex, economic development is measured based on a variety of **indicators of development**. However, GNI/GDP per capita, health and education indicators – such as life expectancy, or years in schooling – are generally considered important in any measurement of economic development.

## CLASSIFICATION OF COUNTRIES

Countries differ in their level of economic development. Economists, politicians, government agencies and world organisations, such as the World Bank, the IMF and the OECD, classify countries and band them into groups for various purposes, an example of which is aid disbursement. Examples of these classifications include the following.

FIGURE 1

**The world by income, 2017**




**High-income, middle-income and low-income countries** One simple way to classify countries is by their income. Countries differ in size of population. So the key indicator is income per capita. To eliminate exchange rate issues and differences in costs of living, income per capita can be measured in terms of purchasing power parities (PPPs). High-income countries are those in Western Europe, the USA and Canada, Australia and New Zealand and Japan. Middle-income and low-income countries are found throughout the rest of the world. A disproportionate number of low-income countries, however, are found in Africa.

**Developed, developing and less developed countries** Developed countries are high-income countries, such as the UK and the US. Developing or less developed countries are broadly middle-income and low-income countries. Low-income countries are sometimes called least developed countries.

**Other classifications** There are many other terms used to describe countries, for example:

- **Emerging countries** – middle-income countries which could become high-income countries over the next 20 or 30 years. Another term used to describe this group is newly industrialised countries (NICs).
- **BRIC countries** – four countries: Brazil, India, Russia and China. When this term was first used, in the early 2000s, it was judged that these countries were very large, but also had high growth prospects. As such, their growth would be very important for the whole world economy.
- **Tiger economies** – economies with very high growth rates, such as have been experienced by South Korea, Singapore, Hong Kong and Taiwan in the past.

## CHARACTERISTICS OF DEVELOPING COUNTRIES

No two economies are the same. However, developing countries possess certain characteristics when compared with developed countries. Understanding the characteristics of developing countries will help you to understand some of the measures of development.

**Lower per capita incomes** Output per person, measured in money terms, and incomes received by citizens on average are lower than in developed countries.

**Physical capital** Developing countries have less physical capital per capita than developed countries. This means there is less infrastructure, such as roads, offices, hospitals and schools per capita. The quality and quantity of machinery and equipment on average is lower per capita. In the home, there is less access on average to safe drinking water or to sanitation facilities, such as toilets.

**Human capital** Developing countries, on average, have lower levels of human capital. On average, the population is less well educated and skilled than in developed countries. In poorer developing countries, for example, illiteracy rates might be high and might differ significantly between genders.

**Health and mortality** Individuals in developing countries on average suffer poorer health and die younger than in developed countries. Health is greatly influenced by living conditions. In developing countries, individuals are less likely to have access to safe drinking water, while they are more likely to have no proper sanitation facilities, live in cramped conditions, not have enough to eat and have limited access to medical facilities. However, there can be an enormous range of experiences within some developing countries.

**Population growth** Population growth tends to be linked to average incomes. The higher the average income, the lower the rate of population growth is likely to be. One reason is that in low-income countries, children can be put to work and bring income into the family. They can also look after the parents in old age. In developed countries, children are a major cost to parents, including lost earnings of the main child carer in the family.

**Unemployment and underemployment** Less physical and human capital, combined with high population growth, can lead to large scale unemployment and underemployment.

**Structure of the economy** As economies develop, typically they pass through the same restructuring of their economies. In less developed economies, the agricultural sector is large, while manufacturing is small. In middle-income countries, the agricultural sector has shrunk in relative size to be replaced by manufacturing. In developed countries, the agricultural sector tends to be a very small part of the economy, while the service sector can be 70 to 80 per cent of GDP.

**Institutional structures** Developed countries have a complex system of institutional structures. There is 'good' government, independent judges, a strong set of laws that protect private property and a sophisticated financial system. Institutional structures in developing countries tend to be weaker and hence the rule of law is weaker. At worst, there can be civil war, which is highly destructive of both physical and human capital.

**The environment** A growing population, together with growth of agriculture, mining and manufacturing, mean that the environment is under greater pressure in developing countries than in developed countries. There is often mass migration of people from the countryside to towns and cities. In rich developed countries there is sufficient income to protect the environment and make it cleaner. In poorer countries, the environment is a much lower priority. This means developing countries tend to have higher pollution.

## MEASURES OF ECONOMIC DEVELOPMENT

One important advantage of using growth in GDP/GNI per capita as the indicator of development is that it is a single measure calculated using the same unit. That unit is money, such as US dollars or pounds or euros. It is easy to compare the rate of growth of different countries using this figure because all countries follow the same methodology to calculate the GNI/GDP. However, many economists have highlighted the limitations of this measure – for instance, that it merely looks at how much money a citizen earns on average, ignoring many aspects of development. It is not possible simply to equate GDP per capita with things such as access to mobile phones, energy consumption or the number of children in schooling using a monetary unit.

However, it is possible to calculate an index where different statistics are given particular weightings. This is the type of calculation used, for example, for the Producer Price Index or the Consumer Prices Index. There are a variety of development indices in use today.

## THE HUMAN DEVELOPMENT INDEX

The United Nations calculates a measure of economic development called the **Human Development Index** (HDI). This is a composite index based on three dimensions or components of development. The three dimensions of development are measured using four indicators:

- health, as measured by life expectancy at birth
- education, as measured by two indicators: the mean (i.e. average) years of schooling of adults aged 25 and over; and the expected years of schooling that current five-year-olds can expect to receive over their lives
- income as measured by real gross national income (GNI) per capita at purchasing power parities.

Each of the three individual components is given equal weighting and a geometric mean (i.e. the middle number in a geometric progression) is taken. This gives a score between 0 and 1. The higher the score, the greater the level of economic development.

The United Nations then puts countries into four broad human development categories: very high human development (0.8+), high human development (0.7–0.79), medium human development (0.5–0.69) and low human development (0–0.49)

Countries are ranked according to their score. In the Human Development Report 2016, Norway had the highest HDI ranking of 1, while the Central African Republic had the lowest HDI ranking of 0.188.

**Advantages of the HDI**

- The Human Development Index gives a broader measure of economic development than national income statistics, such as GNI per capita. As the United Nations states, 'Income is a means to human development, and not the end'. The HDI measures three important dimensions of human development: a long and healthy life (measured by life expectancy at birth), having knowledge (measured by mean and expected years of schooling) and having a decent material standard of living (measured by GNI per capita). This means the HDI can provide a more accurate and comprehensive measurement than GNI per capita alone. For example, in 2015, Malaysia had a higher GNI per capita than Chile but, in Malaysia, life expectancy at birth was about seven years shorter and expected years of schooling were three years shorter than in Chile. Therefore, taking all three components of the HDI into account, Chile had a much higher HDI than Malaysia.

LINK Student Book 1, Chapter 22

- It is also recognised in the method of calculating the HDI, that increases in income have a diminishing impact on living standards. For example, a rise in GNI per capita of $100 will have a greater impact on improving living standards in a country where average income is only $500, than in a country where average income is $5000 or $50,000.
- Using HDI values helps policy makers to assess how well their economic growth is benefiting their citizens, for these important dimensions of human development.
- Because the HDI has only three components, it is relatively easy to calculate because governments tend to collect the statistics used in the index.
- The HDI value is well understood as a measure of development. Most policy makers understand that further data might also help them to measure development, along with the HDI.

### LIMITATIONS OF THE HDI

The HDI only uses four indicators to measure the three components of health, education and income. This has its limitations. For example, in high-income countries, life expectancy at birth is relatively high. However, a growing proportion of the population have health problems which prevent them from leading a normal life – for example, Alzheimer's and obesity. Years of education are not necessarily correlated with quality of education or educational outputs. GNI takes no account of income inequalities. The Human Development Index also takes no account of a large number of other variables such as the quality of housing, types of jobs, number of hours worked and employment, or the environment.

## THE INEQUALITY-ADJUSTED HUMAN DEVELOPMENT INDEX (IHDI)

This index is a modification of the Human Development Index. It adds a fourth indicator of development: inequality. Each of the three measures of life expectancy, educational achievement and the standard of living are adjusted for degrees of inequality using the Atkinson index, a measure of inequality like the Gini coefficient (see Chapter 33). The greater the inequality in a country, the greater the negative impact on the IHDI score which, like the HDI, goes from 0 (least developed) to 1 (most developed). Inequality reduces the potential for human development and therefore higher inequality is considered to have a negative impact on economic development. IHDI is a broader measure of development than the HDI but can also be criticised for not taking into account more variables that affect development. The United Nations also publishes HDI data which are adjusted for gender inequalities.

## OTHER MEASURES OF DEVELOPMENT

It is possible to judge economic development by considering a variety of statistics on their own or, as is more common, in addition to the HDI. The World Bank publishes a wide variety of development indicators. These measures include the percentage of adult male labour in agriculture, access to clean water, energy consumption per capita, access to internet per thousand of population, access to mobile phones per thousand of population and access to doctors per thousand of population.

## ACTIVITY 1

SKILLS ANALYSIS, REASONING, INTERPRETATION

### CASE STUDY: THE UNITED NATIONS HUMAN DEVELOPMENT REPORT 2016

| Country | GNI per capita (PPP $) | HDI | HDI rank | Inequality adjusted HDI | How much ranking changes, from HDI rank, after inequality adjustment | Life expectancy at birth (years) | Mean years of schooling (years) | Expected years of schooling (years) |
|---|---|---|---|---|---|---|---|---|
| Botswana | 14,663 | 0.698 | 107 | 0.433 | –23 | 64.5 | 9.2 | 12.6 |
| Brazil | 14,145 | 0.754 | 79 | 0.561 | –19 | 74.7 | 7.8 | 15.2 |
| Sri Lanka | 10,789 | 0.766 | 72 | 0.678 | +8 | 75 | 10.9 | 14 |
| Indonesia | 10,053 | 0.689 | 113 | 0.563 | +9 | 69.1 | 7.9 | 12.9 |
| Cambodia | 3095 | 0.563 | 143 | 0.436 | +11 | 68.8 | 4.7 | 10.9 |

▲ Table 1

1 Explain how the two indices in Table 1 are calculated.
2 Using the data, explain why Botswana has a lower HDI than Brazil, despite a higher GNI per capita.
3 Using the data, explain why Indonesia has a much lower HDI ranking than Sri Lanka, despite having a similar level of GNI per capita.
4 What does the data suggest about income distribution in Cambodia, compared to Botswana?
5 Is the HDI a better indicator of development than GNI per capita?

## THE PERCENTAGE OF ADULT MALE LABOUR IN AGRICULTURE

Developing economies tend to have a high proportion of adult males employed in agriculture, whereas advanced economies have a low proportion of adult males employed in agriculture.

- It is normally assumed that as an economy develops, labour will flow from agriculture and other labour intensive primary activities to industry and finally to the services sector. At the same time, workers will migrate from rural to urban areas. It is through industrialisation that an economy can significantly increase its productivity.
- There are fewer workers employed in agriculture in advanced economies because more capital-intensive methods are used. This reduces the demand for labour in this sector.

This indicator can therefore help to identify the stage of development an economy has reached.

## ACCESS TO CLEAN WATER

For the poorest economies, economic development will mean a rising share of their population has access to clean water. Improved access to clean water improves health, reduces poverty and will also indirectly improve educational achievement and economic opportunities.

## ENERGY CONSUMPTION PER CAPITA

Industrialisation is one important strategy to promote growth and development. Moving resources away from agriculture and into industry means energy use increases. Energy use also increases as the use of motor transport increases. Therefore, this indicator can help identify economies at different stages of development.

Energy use has been growing rapidly in low- and middle-income economies, but high-income countries still use almost five times as much energy per capita.

However, for many high-income countries, there is a falling trend in energy use per capita. Partly this is due to improvements in technology which make economic activities more energy efficient. Partly it is because governments are encouraging consumers and businesses to use less energy because of environmental concerns with the burning of fossil fuels

### ACCESS TO INTERNET PER THOUSAND OF THE POPULATION

The proportion of the population using the internet is a good indicator of connectivity of individuals, the government and businesses. The use of the internet offers opportunities for economic growth, improved health and raising the quality of human capital through distance learning. The internet enables individuals and businesses to create markets, either as buyers or sellers, or to make markets more efficient through the increased availability of information. The use of internet banking has also grown recently in many developing countries, which is helping to promote development, for example in Sub-Saharan Africa.

### ACCESS TO MOBILE PHONES PER THOUSAND OF THE POPULATION

The number of mobile phones per thousand of the population is a good indicator of how well individuals and businesses are connected within an economy. Access to mobile phones means an economy has opportunities to advance human and economic development. These range from being able to access health information, making cash payments, stimulating job creation and improving citizens' involvement in the democratic process.

### ACCESS TO DOCTORS PER THOUSAND OF THE POPULATION

Economies at low levels of development will have a lower number of medical staff per 1000 of the population. They do not have adequate resources to fund health care to the same extent as more developed economies. The World Health Organization estimates that at least 2.5 medical staff (doctors, nurses and midwives) per 1000 people are needed to provide adequate health care.

Good health is an important aspect of a person's wellbeing and ability to live a good life, so access to doctors will be a crucial indicator of development. Poor health also destroys human capital and so reduces average incomes.

## USING INDICATORS TO MEASURE ECONOMIC DEVELOPMENT

There is a wide range of possible indicators which can be used to measure development in addition to those discussed in this chapter, for example, $CO_2$ emissions per capita.

Sometimes collecting only one indicator will provide a quick and fairly accurate measure. For example, over a short period of time, changes in electricity production can be a better measure of the economic development of a developing economy than changes in GDP. This is because electricity production is a relatively simple statistic to collect accurately, whereas GDP statistics are made up of millions of individual statistics and are often subject to significant change over time.

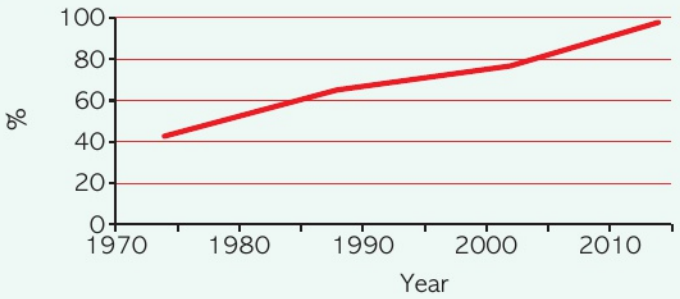
However, for a more comprehensive and accurate assessment, the HDI and a range of indicators would be sensible.

## THINKING LIKE AN ECONOMIST

### INDIA AND EDUCATION

Comparisons have long been made between India and China. Both are developing countries with large populations and a large land mass. In 1980, it could be argued that both were at a similar stage of economic development. Since then, China's economic growth has been much greater than that of India. There are many possible reasons for this difference in economic performance, but one is education. In 1980, China had a strong system of state schools. Since then, educational achievement has risen, keeping pace with the needs of its strongly growing economy. In contrast, India's education system has failed to develop sufficiently, leading to too many adults being illiterate. India's education system is slowing its economic development and impacting negatively on its economic growth rate.

In recent years India has made significant progress in ensuring access to primary education (see Figure 2). In the 1990s, less than 80 per cent attended primary school. Many rural families lived too far from the nearest school to easily send their children to school. Equally, for many rural families, education didn't seem to add any value to their farming-centred lives. In 2002, the government passed a law declaring




▲ Figure 2 India: percentage of pupils from the relevant age group completing primary school

Source: The World Bank Group

primary school education was a 'fundamental right' for every child aged 6–14. Between 2005 and 2015, 350,000 new primary schools were built and more than 95 per cent of villages now have their own school. Almost every child now goes to school.

However, the quality of education is poor. The national curriculum assumes that students will learn to read in their first year of school. This simply is not happening. Part of the problem is absenteeism. Most children are enrolled at a school, but many often do not attend. Too many parents keep their children off school when there is work to be done on the family farm or in the family business. Teachers too are frequently absent, because they are on salaries and are often not punished if they do not turn up to teach. Surveys indicate that 15 to 25 per cent of teachers are absent on any given day.

The result is low standards. The 2014 Annual Status of Education report says that over the past decade an estimated 100 million children completed primary school without gaining basic reading and maths skills. In 2009, India ranked 73 out of 74 countries in the OECD's triennial test of reading, maths and science skills of global 15-year-olds. India has refused to take part in subsequent OECD tests.

Poor education harms economic development, partly because it has an impact on job prospects. For the next stage of India's economic development, millions of people need to move from agricultural employment into secondary and tertiary industries – into jobs which require basic literacy and numeracy. Employment for young people who lack these fundamental skills is likely to pay barely enough for them to survive and will keep them in poverty.

| GNI per capita, PPP (current US $) | | |
|---|---|---|
| | 1990 | 2017 |
| China | 990 | 16,760 |
| India | 1120 | 7060 |

▲ Table 2 India and China: GNI per capita, PPP (current US$)

## CHECKPOINT

1. What is the difference between economic growth and economic development?
2. What are the three components of the Human Development Index and how are they measured?
3. If country A has a human development index of 0.9 and country B a human development index of 0.5, which one has a higher level of human development?
4. Give two advantages of using the HDI as a measure of economic development.
5. Give two limitations of using the HDI as a measure of economic development.
6. List some other indicators of development.

## SUBJECT VOCABULARY

**BRIC countries** Brazil, Russia, India and China

**developed countries** high-income countries, such as France, Germany, Spain and the US

**developing or less developed countries** broadly, middle-income and low-income countries

**economic development** improvement over time of a wide range of economic indicators such as Gross National Income (GNI), life expectancy, educational achievement, access to clean water and mobile phone connections

**emerging countries** (sometimes called newly industrialised countries or NICs) middle-income countries which could become high-income countries over the next 20 or 30 years

**Human Development Index** (HDI) a measure of development developed by the United Nations based on three components: health, education and income

**indicators of development** the range of data which is used to help measure development, such as Gross National Income (GNI levels), life expectancy and the percentage of adult male labour in agriculture

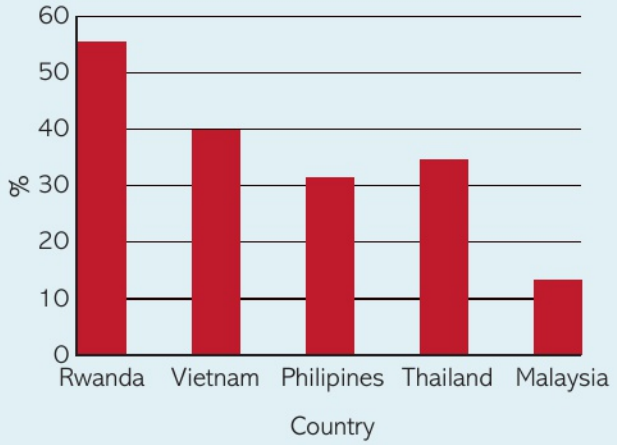
**low-income countries** sometimes called least developed countries

**tiger economy** an economy which undergoes rapid economic growth; the term was originally applied to the four Asian tigers – South Korea, Taiwan, Hong Kong and Singapore

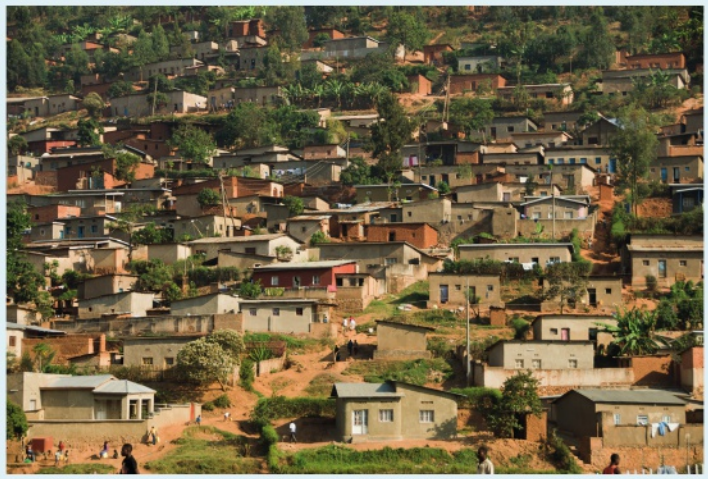
# EXAM PRACTICE

## COMPARING THE LEVEL OF ECONOMIC DEVELOPMENT BETWEEN COUNTRIES

SKILLS REASONING, ANALYSIS, INTERPRETATION, CRITICAL THINKING




▲ Figure 3 Male employment in agriculture, as a % of male employment Source: The World Bank Group



| | GNI per capita, PPP (constant 2011 $) 2016 | HDI value | HDI ranking | Life expectancy at birth | Expected years of schooling | Mean years of schooling |
|---|---|---|---|---|---|---|
| Rwanda | 1744 | 0.498 | 159 | 64.7 | 10.8 | 3.8 |
| Vietnam | 5589 | 0.683 | 115 | 75.9 | 12.6 | 8.0 |
| Philippines | 8729 | 0.682 | 116 | 68.3 | 11.7 | 9.3 |
| Thailand | 14971 | 0.740 | 87 | 74.6 | 13.6 | 7.9 |
| Malaysia | 24968 | 0.789 | 59 | 74.9 | 13.1 | 10.1 |

▲ Table 3 Comparison of Rwanda with other selected countries, Human Development Report 2016

| Year | Rwanda | Vietnam | Philippines | Thailand | Malaysia |
|---|---|---|---|---|---|
| 2016 | 20.0 | 46.5 | 55.5 | 47.5 | 78.8 |

▲ Table 4 Individuals using the internet (% of population)

| Year | Rwanda | Vietnam | Philippines* | Thailand | Malaysia |
|---|---|---|---|---|---|
| 2015 | 77.0 | 92.0 | 96.4 | 99.1 | 99.0 |

▲ Table 5 People using at least basic drinking water services, urban, % of urban population

*Data for Philippines 2004 (latest available data)

### EXTRACT A: RWANDA'S HUMAN DEVELOPMENT INDEX, 1990–2015

Between 1990 and 2015 Rwanda made the greatest progress in human development, according to the UN's annual Human Development Index (HDI). The UN also calculates an adjusted development index that takes inequality into account. On average, this reduces countries' 2015 scores by 22 per cent; Rwanda falls by over 30 per cent.

Source: Human Development Index, © 2015, Used with permission from The Economist Newspaper Limited

## EXTRACT B: RWANDA'S FUTURE

Rwanda is a small land-locked country with a population of about 12 million. Since 2000, growth in GDP has averaged 8 per cent a year and is among the best on the continent, according to the World Bank, although the economy has recently slowed significantly. The President has a record of producing rapid growth and extracting maximum social gain from minimum resources – but human rights organisations criticise the lack of political freedom. However, officials say progress in poor countries is more about access to food, schooling and healthcare.

Poverty has fallen sharply, as has mortality during childbirth. Unusually for a rapidly developing country, inequality has also narrowed, partly because of social programmes, including giving a cow to the poorest citizens. Rwanda has developed new roads and high-speed internet. It has also developed several industries including tourism, coffee and tea, light manufacturing and mining.

Rwanda has been a centralised state since the 16th century. The government argues that regular consultations with citizens and target-setting for officials are evidence of a system that values collective agreement. Depending on your perspective, though, Rwanda can feel constrained. In the hillsides, where more than two-thirds of its people live, 'recommendations' from the government can feel like commands.

There is still more to do and continued progress is not guaranteed. Rwanda struggles to be self-sufficient in terms of food production, let alone to earn enough scarce foreign exchange through exports. The government remains dependent on aid for at least a third of its budget, says the World Bank.

Source: Pilling, David and Barber, Lionel, Kagame insists 'Rwandans understand the greater goal', © 2017, Used with permission from Telegraph Media Group Limited

Q

**1** In 2015 the Human Development Index for Australia was 0.939 and for Hungary was 0.836. Which one of the following can be deduced from this data? **(1 mark)**

(a) The GNI per capita in Australia is higher than in Hungary.
(b) As measured by the Human Development Index, Australia has a higher level of development than Hungary.
(c) On all indicators of development, Australia would perform better.
(d) Income distribution is more unequal in Australia than in Hungary.

**2** With reference to the extracts, answer the following:

(a) Rwanda's GNI per capita, PPP (constant 2011 prices) in 2010 was 1355 US dollars. By 2016 this had risen to 1744 US dollars. If this data is converted into index numbers, with 2010 as the base year, calculate the index number in 2016. **(2 marks)**
(b) Explain what is meant by the phrase 'economic development'. **(4 marks)**
(c) With reference to Figure 3, analyse the use of 'the percentage of adult male labour in agriculture' as a measure of economic development. **(6 marks)**
(d) Examine the limitations of using the Human Development Index between 1990 and 2015 as a measure of Rwanda's human development progress over this period. **(8 marks)**
(e) Discuss the likely impact of a rise in GNI per capita on the level of economic development in an economy. **(14 marks)**

**3** In 2015, the Human Development Index for Colombia was 0.727 and for Kenya 0.555. This placed Colombia 95th in the rankings and Kenya 146th. Evaluate the extent to which the Human Development Index is a useful measure of economic development. **(20 marks)**

### EXAM HINT

For Question 2d, use the information available and analyse why changes in the HDI for Rwanda might give a misleading impression of the progress Rwanda has made. Evaluate by considering whether these limitations are significant or not.

### EXAM HINT

For Question 2e, does the data suggest that there is a correlation between GNI per capita and HDI values? Suggest why an increase in GNI per capita may result in better HDI performance. For evaluation, use the figures and the extracts to provide examples of situations in which a rise in GNI per capita does not necessarily increase the level of economic development. Explain why.

### EXAM HINT

For Question 3, analyse the benefits of using HDI as a measure of economic development. Are there any limitations of using the HDI as a measure of development? Under what circumstances might the use of HDI alone be misleading? Would further data be useful? Aim to give an overall conclusion.

# 40 CONSTRAINTS ON GROWTH AND DEVELOPMENT

UNIT 4
4.3.6

LINK Student Book 1, Chapter 35

## LEARNING OBJECTIVES

- Understand the impact of a range of economic and non-economic factors which constrain growth and development

## GETTING STARTED

Using the World Bank website and other sources, produce a list of factors which you think explain why many countries remain at a lower development stage than advanced economies.

## ECONOMIC FACTORS WHICH CONSTRAIN GROWTH AND DEVELOPMENT

There are many factors which explain why countries find it hard to move to higher levels of economic development or which constrain economic growth. Some factors apply particularly to developing countries; other factors can be relevant for both developed and developing countries.

## COMMODITIES

Some developing countries are highly dependent on exports of commodities while others are highly dependent on imports of commodities. These commodities range from agricultural products such as rice or soya beans, to mineral commodities such as copper or iron ore, to fossil fuels such as oil or coal. Dependency is related to the proportion of GDP that is accounted for by commodity exports, the proportion of exports that are commodity exports and the number of people employed in commodity production. Commodities and natural resources should bring prosperity and increased rates of economic development to countries that are abundant in natural resources. However, there are a number of reasons why abundance of natural resources might lead to a **resource curse** where economic development is limited.

### VOLATILITY OF COMMODITY PRICES

Fluctuations (changes) in commodity prices will cause problems for countries, particularly those developing countries who rely on commodity exports as a significant source of export revenue. The more price inelastic the demand for the commodity, the greater the changes in price are likely to be. Sudden price changes can mean large amounts of extra revenue being earned by an economy or large falls in revenue. This makes it difficult for firms and governments to predict their revenues in the short and long term, which can discourage investment and make it hard for a government to plan economic development.

When commodity prices rise over a number of years, there tends to be over-investment in the production of the commodity. Producers assume that prices will carry on rising or remain the same, and can be caught out by large falls in price. The more dependent a country is on commodity exports, particularly one or two commodity exports, the greater the risk there will be large changes in GDP when commodity prices change.

### PRIMARY PRODUCT DEPENDENCY

When commodity prices are declining, the terms of trade for commodity export dependent countries fall. They can afford to buy fewer goods and services from abroad with the revenues earned from the sale of commodities. The **Prebisch–Singer hypothesis** suggests that over the long run the prices of commodities will fall compared to all other goods, such as manufactured goods. This suggests that countries with a high export dependency on primary products will experience a continued worsening of their terms of trade.

The reason the price of commodities might fall relative to the price of all other goods, such

as manufactured goods, is based on the different income elasticity of demand between commodities and manufactured goods. Commodities are argued to have a low income elasticity of demand while manufactured goods and services have a high elasticity of demand. As world incomes rise, demand for manufactured goods and services will rise faster than demand for commodities. So commodity export dependent countries will grow relatively poorer than other countries. A worsening of the terms of trade will also make it harder for a developing country to generate enough foreign currency from its commodity export revenue to pay for much needed imports, such as capital goods, which may help it to achieve higher economic development and growth.

The Prebisch–Singer hypothesis suggests that, if commodity prices are unexpectedly high in the short run, a country should use this opportunity to fund spending that is most likely to help development and growth, such as education and infrastructure. In the long run, diversifying the economy into manufacturing (industrialisation) would also be beneficial.

However, the experience of the world commodity boom from 2001 to 2013 shows that commodity prices can rise significantly over a long period compared to the price of all other goods. In the early 2000s, many developed countries saw their terms of trade decline compared to commodity export dependent countries. Commodity rich countries, ranging from Australia to Chile to Saudi Arabia, also saw their growth rates exceed less resource-rich countries.

Another problem is what is known as the **Dutch disease**. Some countries become significant commodity producers in a relatively short space of time. The Netherlands in the 1960s became a significant producer of natural gas. As a result, the Netherlands imported less energy and exported gas. This increased the demand for the Dutch currency and reduced supply, leading to a significant rise in the Dutch foreign exchange rate. As a result, Dutch agricultural and manufacturing products became less internationally price competitive and output in these two sectors fell compared with what it would otherwise have been. If the economic loss from closure of firms is greater than the gain from increased commodity revenues, the economy can become worse off as a result of the trade in a commodity. The non-oil sectors in countries such as Nigeria and Venezuela have suffered because oil exports have increased the value of their currencies.

Another aspect of the resource curse occurs when commodity resources can be controlled by small groups that seek to maximise their own rewards at the expense of the rest of the population. An example might be the development of a gold mine. A transnational mining company wants to develop the mine and maximise its own profits. It therefore wants to pay as little to the government of the country as possible in licences, fees and taxes. It also wants to operate the mine as cheaply as possible. So it wants to be able to dispose of waste without worrying about environmental damage. It also wants to be able to recruit local workers at the lowest possible wage rate, preferably without any trade unions being involved. It therefore bribes local government workers and politicians to secure a good deal. The losers are local populations. Despite billions of dollars of commodities being extracted from their countries, they can receive little benefit.

## ACTIVITY 1

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: INDONESIA'S OVER RELIANCE ON COMMODITIES

Commodities have played a big part in Indonesia's economy. The country is the world's leading exporter of palm oil and tin, the second biggest rubber exporter and the fourth largest coal producer. The Grasberg mine in Papua, in Indonesia's east, is the world's biggest gold mine and its third largest copper mine. When China's rapid expansion contributed greatly to commodity price rises, Indonesia's GDP increased rapidly. But since 2011, Indonesia's growth rate has fallen, reflecting China's weakening demand for raw materials and the dramatic fall in prices this caused. In 2016, global prices for key exports, such as natural gas, rubber and palm oil fell to around 50 per cent of their 2011 highs, according to the World Bank. This caused Indonesia's growth rate to fall to 5 per cent in 2016. This is much lower than the 7 per cent plus growth rate Indonesia was experiencing when investors saw it as one of the brightest stars among emerging markets.

**1** What might be the problems for Indonesia's economy if it remains over-dependent on the exports of commodities to achieve economic growth?

## THE SAVINGS GAP, FOREIGN CURRENCY GAP AND CAPITAL FLIGHT

Development economics has a relatively short history. The first major work in this field of economics was done in the 1950s. The most important question which development economists first asked themselves was 'how can economic growth in an economy be raised?' Development economists initially used a widely accepted growth theory of the time called the **Harrod–Domar growth model**. This theory states that investment, saving and technological change are the key variables in determining economic growth. Increased investment in an economy pushes out the production possibility frontier. So too does the introduction of new physical capital where new, technologically advanced capital can produce more output than a unit of the old capital using less advanced technology. Saving is important because savings approximately equal investment in an economy.

The policy implications of the Harrod–Domar model are clear. Increasing the rate of economic growth is a simple matter of either increasing the savings ratio in the economy (which will increase the amount of investment) or making technological progress (which will allow more output to be produced from a single unit of that capital).

If a country is poor, it might seem obvious that savings will be low. Households will be spending all their money simply to stay alive. Therefore poor developing countries will have insufficient levels of savings to finance investment. The result will be a cycle of low savings, low investment and low economic growth. One way out of this is for rich developed countries to give foreign aid. If this aid is used to boost investment, it can fill the **savings gap**, the difference between actual savings and the level of savings needed to achieve a higher growth rate. Equally, foreign aid might be used to fill a **foreign currency gap**. This is when exports from a developing country are too low compared to imports to finance the purchase of investment or other goods from overseas required for faster economic growth.

Economists widely agree that increasing savings and investment is likely to secure higher growth rates. However, these are not sufficient conditions for economic growth. Investment can be wasted. Building a new steel production facility in a developing country might lead to nothing if workers are not able to run the facility, or if there are no ports to import the materials needed, or no roads to transport the finished product. There can be **capital flight**. This is when savings are sent abroad by citizens and firms of one country to another country which is either seen as being more secure or where the money can be hidden from government authorities. Foreign aid can be expropriated by local elites through bribery and corruption. Or it can be used to finance arms purchases rather than used for productive investment. Also, when opportunities for small-scale profitable investment projects arise, households will increase their saving to invest. Farmers, for example, will save more if they know that investing in more productive seeds or a new piece of equipment will be profitable.

The Harrod–Domar model can be expressed in simple algebraic terms. Savings (S) is a proportion (s) of national income (Y). So $S = sY$. Investment (I) is the change in the capital stock ($\Delta K$). The amount of extra capital ($\Delta K$) needed to produce an extra unit of output ($\Delta Y$) is called k, the capital-output ratio and is equal to $\Delta K \div \Delta Y$. Investment is roughly equal to savings in an economy, so it can be said that $S = I$.

What then causes economic growth, which is measured by the change in output divided by the original level of output ($\Delta Y \div Y$)? The top of the fraction, $\Delta Y$ can be found from the definition of the capital output ratio, $k = (\Delta K \div \Delta Y)$. Rearranging this equation gives: $\Delta Y = (\Delta K \div k)$. The bottom of the fraction, Y, can be found from the equation $S = sY$, remembering that $S = I$ and that $I = \Delta K$. This gives us $S = I = \Delta K = sY$. Rearranging the last part of this gives:

$$Y = \Delta K \div s$$

$\Delta k$ appears on both the top and bottom of the fraction for the growth rate of the economy, so these values cancel each other out. This leaves us with:

$$\text{rate of growth} = \frac{\Delta Y}{Y} = \frac{s}{k}$$

## DEMOGRAPHIC FACTORS

The changing structure of the population and its rate of growth can be important for development. In many countries across the world, the population is ageing. This means the proportion of workers to dependents (people who need another person to provide money, food, clothes etc.) is falling. With fewer workers, it will be hard to generate more output in the economy. This limits economic growth and makes development harder. Although ageing populations are

thought to be mostly an advanced economy problem, a growing number of developing countries are also facing the challenges of an ageing population. Ageing populations place pressure on parts of the economy that serve the needs of the elderly, such as health systems. They also increase the dependency ratio; this is likely to mean that those who do work pay higher taxes.

Development tends to be linked with demography. The lower the level of development, the higher tends to be the birth rate. Young populations can be dynamic. However, there is a large burden on the education system to provide education and training for such a large number of young people. There also tend to be large amounts of unemployment and underemployment (jobs in which workers cannot use all their skills or where there is not enough work to do) because economies cannot provide enough jobs for the large numbers of young people joining the working population. If a developing economy has a rapidly growing population, it is likely to have a large number of children as a percentage of the population. This will increase the dependency ratio, limiting the ability of households to save and worsening the problem of a savings gap.

Unemployment and underemployment are often a major problem in developing and developed countries. Some of those who are unemployed or underemployed will choose to find work abroad. In the EU, for example, there are flows of economic migrants from Eastern Europe to Western Europe. Ireland, traditionally an economy with not enough jobs for its growing population, has seen tens of millions of people migrate over the past 200 years. In developing countries, there are large migrant populations from countries such as Pakistan and Egypt working in the Gulf States and in Saudi Arabia. In Russia, there are millions of migrants from former Asian Soviet republics such as Turkmenistan.

Some of the migrants will settle in their new country. Some will want to settle but will be refused permission. For others, their work is temporary. They want to make enough money to go home and buy a house or have financial security for years to come. Many migrants send money back to their families while they are working abroad. These are called remittances. For some countries, remittances are a major source of income. On the balance of payments, they are income credits on the current account and so they add to GDP. According to the World Bank, in 2015 the top three countries in terms of remittances as a percentage of GDP were Tajikistan (42%), the Kyrgyz Republic (30%) and Nepal (29%). High income countries are the main source of remittances. The three countries with the biggest recorded outflows were the US, Saudi Arabia and Russia.

Remittance inflows are positive because they increase GDP and allow otherwise unemployed workers to have a job. However, they are a second-best solution: it would be better for those workers to be employed in high value jobs in their own countries. It is also likely that emigrants from developing countries will be the most skilled and productive workers, who have the financial resources to move to a more advanced economy. For example, many African governments are concerned about a 'brain drain' that has seen skilled professionals in healthcare and other sectors move to Europe or the US. So, although remittances can aid economic development, emigration might be a sign that there are major labour market problems in those countries.

## DEBT

Foreign currency debt was a major problem for many developing countries in the 1980s and 1990s. In the 1970s, the governments of developing countries were encouraged by banks to borrow US dollars at low rates of interest. The early 1980s, however, saw a rise in the value of the US dollar against other currencies and a rise in interest rates. It left the governments of many developing countries paying substantially more in their own local currencies simply to pay the interest on their foreign currency loans. One response was to borrow more money to keep up with interest payments. However, in 1982, the government of Mexico defaulted on its debts, i.e. it refused to make further payments on its debts. Banks took fright and became reluctant to lend to many developing countries. This 'Third World debt crisis' led to poor developing countries paying more in interest and debt to banks in developed countries than they received in loans and foreign aid. Money was therefore flowing from poor countries to rich countries, the opposite to what was needed for economic development.

The debt crisis was resolved by a combination of measures. Debt was written off or reduced. Economic growth in developing countries reduced the ratio of debt payments to GDP and so debt repayments became more affordable. Rising exports in developing countries released foreign currency to repay debt.

The debt crisis, however, slowed economic development in countries that were badly affected. The money that was borrowed was all too often wasted by governments. Some of it was simply taken by elites through corruption. Some of it was very badly invested in projects which gave little or no economic return.

Some of it was spent on weapons. It wasn't until the early 2000s that many countries resolved their debt problems through fast economic growth.

Borrowing money to finance economic growth should in theory make sense. Firms, for example, borrow money to finance their day-to-day activities and their investment plans. If the private sector in developing countries is borrowing money to finance its growth, this should increase the productive potential of the economy. Recent history suggests that the problems with debt in developing countries occurred when governments took on the debt and then spent that money badly.

Rising household debt is an increasing concern among many developed economies. For example, in 2017 the Bank of England raised concerns about consumer credit. Lenders had competed aggressively, lowering interest rates in all forms of borrowing and offering interest-free periods on credit cards. The bank was worried about the number of highly indebted households. If their incomes were squeezed, they would cut back their spending to keep up with their debt repayments. This would constrain growth. They might also default on their loans, which could put banks at risk.

Household debt is also rising in emerging economies, but on average is significantly lower than in advanced economies. Although borrowing by consumers can drive short-run actual growth, if debt grows too large and incomes do not rise fast enough, this will hold back consumption in the future.

## ACCESS TO CREDIT AND BANKING

In developed countries, individuals, firms and governments have access to sophisticated financial systems that allow them to save money with interest and to borrow money. Equally, there are systems for buying shares in companies. There are banks, stock markets and insurance companies for example. The poorer the developing country, the less likely it is that individuals and businesses will have access to such financial institutions and markets. For example, the World Bank put the 'credit gap' for small but formal businesses in developing countries at around $1 trillion in 2011. Include informal firms, and the credit gap is even greater.

A lack of access to credit and banking restricts development because financial institutions provide ways to save now and spend in the future or to borrow now and pay back in the future at a reasonable cost. Without this, poor families can resort to loan sharks to borrow money. Loan sharks are money lenders who charge very high interest rates and lend to those who typically have bad debt records. Loan sharks also tend to threaten borrowers with violence if they cannot repay their debts. Interest rates are punitive and often leave individuals permanently in debt. A banking system that is accessible to all is therefore important for economic development and, for many economies, the lack of such a system is a constraint on growth and development.

The absence of a fully functioning banking system might also constrain growth for more developed economies. The Global Financial Crisis made credit scarce for countries such as the UK and the United States. This reduced investment and consumption. A report in 2018 said that access to bank finance in the EU had fallen since the crisis: the financing available to EU companies as a proportion of GDP had fallen.

## INFRASTRUCTURE

The built environment is vital for economic development. In developed countries, such as those in the EU, there is a complex network of buildings, roads, railways, airports, ports, utilities such as water and gas pipes, telephone and electricity cables, and industrial plants. The greater the level of development, the higher tends to be the value of the built environment. Growth in physical capital is as important as growth in human capital if more goods and services are to be produced.

Many developing countries have an infrastructure gap: the amount and quality of infrastructure is too low. This reduces efficiency in the economy and slows economic growth. For example, problems with power supplies or poor-quality roads will add to the costs of firms and reduce output. A lack of infrastructure also reduces labour mobility and the ability of children to travel to school, and poor infrastructure will deter foreign direct investment. All these factors will limit supply-side growth in the economy.

A lack of infrastructure also affects the Human Development Index. If there is a lack of schools and hospitals, this will reduce mean and expected years in schooling and life expectancy. An infrastructure gap will also show up in other indicators of development, such as low access to clean water, low access to the internet and low access to doctors. The problem for developing countries is how to fund an infrastructure gap. Clearly a country with low GNI per capita will find it hard to generate the tax revenues it needs. Unfortunately, the economy will then find it hard to generate the growth it needs to improve living standards.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: ASIA'S INFRASTRUCTURE GAP THREATENS GROWTH

Asia needs to invest $26 trillion by 2030 to prevent a serious infrastructure shortage that threatens to hold back growth, the Asian Development Bank has warned. Infrastructure spending has failed to keep pace with the rapid growth of economies, population and growth of cities. The gap is most severe outside China.

More than half the spending should go to transport and a third to power, the report says, pointing in particular to a lack of ports, railways and roads to link countries with regional and global markets. Another $800 billion is needed for projects to help the 1.5 billion people who have no access to basic toilet facilities and the 300 million without safe drinking water.

It is not just Asia with an infrastructure gap. The infrastructure gap is global: from the US through Europe to the emerging world, there is build-up of incomplete or important projects that are needed to drive growth. In the US, the American Society of Engineers estimates that ageing and inadequate infrastructure, from power problems to hours lost in traffic jams, will have cost every American family $28,000 in income between 2015 and 2020, if investment trends remain the same.

However, financing these projects is difficult. Affordability and austerity were given as the main reasons for funding shortfalls. Getting the private sector involved can be difficult – charging the public for goods they previously regarded as free is unpopular. Another problem is that infrastructure projects need virtually all their funding immediately, long before any pay-off, which can take decades – this is very different from other businesses.

1 Why do many countries have an 'infrastructure gap'?
2 How does an infrastructure gap constrain economic growth and development?

## EDUCATION AND SKILLS

Developing countries have made great progress in getting children into school. Although the majority of children are now in primary school, there are still some 260 million children in the world not attending primary or secondary school. Even though the rate of children going to primary school is now generally high, the quality of education is often poor. Those who attend school still lack basic numeracy and literacy skills. Poor quality education can have many causes. Clearly governments of developing countries will have fewer resources per capita than more developed ones to invest in education. However, countries with similar income per capita levels often have different learning outcomes for children. This might be explained by poor management and governance of the education system. In some countries, teacher absence is high and teacher training is low. If parents perceive there is little to gain from education, they may choose to keep children at home – the opportunity cost of sending children to school is often high.

The growth of developed economies is also constrained by skills gaps which exist in their economies. With fast moving technological advances, structural unemployment can exist at the same time as job creation. Skills needed by the working population can change quickly over time, which means education and training must be adequately funded. A working population with low or out-of-date skills will reduce innovation in the economy and restrict labour mobility. All this will reduce potential growth.

## THE IMPACT OF NON-ECONOMIC FACTORS

There are many non-economic factors that influence development and economic growth.

### CORRUPTION

Individuals and businesses are less willing to buy machinery, build factories or establish brands if powerful individuals or organisations within the state can effectively steal those assets. When government officials 'steal assets', this is corruption – dishonest or fraudulent conduct by those in power, often involving bribery. Where corruption is widespread, it is often better to seek positions where you can receive large amounts of bribes than ones where there is a genuine output of goods and services. In authoritarian regimes, corruption tends to be particularly severe and widespread. Those in power use their positions to enrich themselves, their families or their ethnic group. Equally, corruption can be present in democracies; for example, there is widespread corruption in India.

Corruption may lead to tax evasion, as individuals may avoid paying taxes when this money is not spent properly. This reduces funds for investment in health, education and other components of government spending crucial for development and growth.

Corruption also leads to inefficiency in an economy if those running the government and firms are not the 'best' candidates for the job. The impact on reducing investment, both domestic and foreign direct investment, also constrains growth and development.

Corruption can be a significant constraint. Economists at PricewaterhouseCoopers (PwC) concluded that by 2030, the size of Nigeria's economy should triple in real terms. Yet, if Nigeria manages to reduce corruption to levels similar to Malaysia, its economy could be some 37 per cent bigger still.

## POOR GOVERNANCE

Growth and development are promoted by good governance and the rule of law. Where the rule of law is weak, there is often a lack of property rights; individuals and businesses are unable to use the law to defend their ownership of assets. The result is lower investment and lower output.

Too much bureaucracy and regulation can also be a result of poor governance. In some countries, it is very costly and time-consuming to set up a legal business because of the bureaucracy and regulation involved. Arbitrary application of tax laws can also discourage business activity.

## CIVIL WARS

One major cause of negative development is war. Countries such as Syria, Iraq and Afghanistan have paid a very heavy price in recent years for continued war that has destroyed both physical and human capital. The long run aggregate supply curve will shift to the left and the PPF will shift inwards. Real GDP will fall as economic activity is disrupted. For example, the Yemeni civil war began in 2015 and economic growth that year was negative 28 per cent. According to the World Bank, conflicts reduce GDP by 2 percentage points per year, on average. However, some countries will be significantly negatively impacted. For example, from 2011 until 2016, the total losses in GDP in Syria have been estimated at $226 billion. This is about four times the Syrian GDP in 2010.

## MIGRATION

Migration also occurs for non-economic reasons, such as those fleeing dangerous political conditions or war. Migration flows might also change for political reasons rather than economic ones. For example, when the UK leaves the EU (Brexit), there is likely to be less flow of migrants between the UK and the EU. Some industries in the UK are concerned that the lower supply of migrants into the UK will push up wage costs and lower productivity. This will impact negatively on economic growth for the UK. For a developing country, if there is less opportunity for workers to emigrate to more advanced economies, the impact will depend on how much remittances change, whether there are gains in productivity if the developing country retains its skilled labour and the extent to which the developing country can create jobs for the size of its working population.

## TERRORISM

According to the Global Terrorism Index, the cost of terrorism to the world was $52.9 billion in 2014. The ten countries most affected by terrorism saw decreased GDP growth rates of between 0.51 and 0.8 per cent. One impact of terrorism is that it reduces FDI inflows for developing countries. In Nigeria it was estimated that terrorism caused FDI inflows to fall by $6.1 billion in 2010. Terrorism has also caused problems for those countries that rely heavily on tourism as a strategy for growth and development. However, individual terrorist incidents are likely to have a smaller impact than long-term terrorism problems.

## OTHER CONSTRAINTS

Diseases such as HIV/AIDS and malaria continue to have a heavy impact on affected countries. Geographical location is also important.

Economic growth in China has been much faster in coastal regions with easier access to ports for exported goods than inland. Landlocked countries such as Bolivia or Uganda have a natural economic disadvantage compared to countries with access to sea routes.

There are also gender issues which constrain economic growth and development for some countries. In many countries, for example, girls complete fewer years of schooling than boys, so they build up less human capital. High mortality rates from childbirth are also a problem faced by women in poorer developing countries

Economic development therefore needs to address gender issues because underusing half the population has many negative effects. It reduces GDP from what it could otherwise be. Also, in terms of bringing up children, the more educated the mother, the more likely it is that her children will be educated to a similar standard.

## CHECKPOINT

1 State two reasons why volatile commodity prices may constrain growth for a developing country.

2 What is the Prebisch–Singer hypothesis?

3 What is meant by the terms 'savings gap' and 'foreign currency gap'?

4 What might be two problems for an economy with a rapidly growing population?

5 Why is limited access to credit a constraint on growth?

6 Give reasons why an infrastructure gap constrains growth and development.

7 Why are low completion rates for primary and secondary education a constraint on growth?

8 State two reasons why corruption will constrain economic growth and development.

## SUBJECT VOCABULARY

**capital flight** when savings are sent abroad by citizens and firms of a country to another country which is either seen as being more secure or where the money can be hidden from government authorities

**demographic dividend** economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older)

**Dutch disease** in economics, where exploitation of natural resources leads to a rise in the exchange rate and the loss of international competitiveness of the country in the production of non-resource goods and services

**foreign currency (exchange) gap** the difference between the actual level of exports and the level of exports needed to create higher economic growth for an economy; sometimes called the foreign exchange gap

**Harrod–Domar growth model** a model which suggests that economic growth is dependent on the saving ratio and technological progress

**Prebisch–Singer hypothesis** suggests that over the long run, the prices of commodities will fall compared to all other goods, such as manufactured goods; this suggests that countries with a high export dependency on primary products will experience a continued worsening of their terms of trade

**resource curse** exists where an abundance of natural resources in a country is exploited, but there is consequently little increase in economic development

**savings gap** in development economics, the difference between the actual level of savings in an economy and the level of savings needed to finance the investment required for a higher rate of economic growth

## THINKING LIKE AN ECONOMIST

### ASIA'S DEMOGRAPHIC CRISIS

Based on UN data, the median age in South East Asia is around 29 years old. This is because around half of Indonesia's population of 261 million is under 29. For Indonesia, these demographics mean the dependence ratio, the proportion of non-workers to working population, is falling as more young people join the labour force. This means a large workforce is supporting an increasingly small number of dependents, who are either too young or too old to work. Such age structures can support periods of accelerated economic growth.

However, elsewhere in Asia, the **demographic dividend** that helped drive ASEAN's strong economic growth, from at least the 1990s, is running out as populations age. Dependency ratios are rising in

Vietnam and Thailand. In South East Asia, Singapore has the highest median age, followed by Thailand where the median age is currently 38 years old.

The challenge for these countries is that a shrinking labour force relative to total dependents limits an economy's growth potential. The latest analysis by the IMF says it is likely that Asian countries will be far poorer than developed ones when their working age populations peak as a share of total population. This has already happened for some: for China the working population share peaked in 2011, but its per capita income was just 20.7 per cent of the US level at its peak. Thailand was a bit better off, at 28.9 per cent when its working age share peaked in 2013, but Vietnam was poorer still, at 10.4 per cent of the US level when it reached the same point in 2014.

Adapting to ageing could be especially challenging for Asia, as populations become older at relatively low per capita income levels. Policy makers are starting to take measures to try to increase the size of the workforce. For example, Malaysia increased its retirement age from 55 to 60 in 2012 and there is talk of raising it further to 65. The country is also attempting to address its falling birth rates. It introduced a baby bonus scheme in 2017, a policy Singapore adopted 16 years ago. However, more aggressive polices might be required to sustain economic growth in the future. These may include wider use of foreign workers and greater automation.

Sub-Saharan Africa has the opposite problem. The median age is 18. 'The number of youths entering Africa's working age population will be rising for years to come,' the IMF says.

The IMF thinks that Sub-Saharan Africa will not be able to transform through manufacturing as East Asia has done over the past two decades. The continent will struggle to follow the development path of Asia because its birth rate remains too high. In Asia, as manufacturing increased, the share of employment in the lowest productivity sectors, primarily agriculture, declined rapidly largely due to low labour force growth. Hence Asia developed quickly. But in Africa, even if the continent could see a boom in manufacturing at the same rate as Asia, the accelerating growth of its working-age population means there will still be huge numbers employed in subsistence agriculture.

# EXAM PRACTICE

## INDIA TODAY

**SKILLS** REASONING, ANALYSING, PROBLEM SOLVING, INTERPRETATION, CRITICAL THINKING

### EXTRACT A: CHALLENGES FOR INDIA

India is growing at 7.2 per cent a year, making it the fastest growing economy in the world. The savings rate, which was less than 10 per cent of GDP at independence, now stands at about 30 per cent, as the ratio of dependants to workers in the population has decreased. Much of India's success is a result of savings being put to productive use.

However, the World Bank has calculated that India would need 8 per cent growth every year for the next 30 years to become an upper-middle income economy. Only three economies have achieved close to this in the past: Taiwan, South Korea and China.

Sustaining high growth is essential. India has one of the world's youngest populations with a median age of 28. A third of 15- to 29-year-olds are not in school, training or jobs. Every year, 12 million young people enter the workforce. India needs to create a million new jobs each month. Even in the best of times, it has managed only half that, yet surveys show that 60 per cent of Indian employers report difficulties in filling jobs.

▲ **Figure 1 India and China: GDP per capita growth (annual % change)**

International surveys give India a low rank for the efficiency and honesty of the state. Problems include the waste of state resources on inefficient subsidies. Transparency International's 2018 Corruption Perception Index ranks the country in 78th place out of 180 countries. Public confidence in the machinery

of government is low, which is shown in falling turnout and tax evasion.

Although the ease of doing business is good in some ways, such as getting permits or bringing in foreign capital, there are still bureaucratic hurdles. For example, private businesses find it almost impossible to secure land for new factories and large sections of the economy, from coal and steel to banking, remain at least partly under state control.

India needs to tackle its long-term problems of inadequate education and health care, weak infrastructure, corruption, poor law-making, excessive state interference (industries from coal and steel to banking remain at least partly under state control) and government waste.

India's new goods and services tax, introduced in July 2017, is designed to make India a single market for the first time. Some claim this could create annual GDP gains of 8 to 10 per cent, putting India at rates of growth China achieved in its boom years. The previous confusion of different tax rates across India's 29 states caused delays as goods crossed borders and gave more opportunities for corruption.

## EXTRACT B: INDIA NEEDS TO KICK START INVESTMENT

One problem for Indian companies is the lack of availability of credit. In 2016–2017, loan growth fell to 5.1 per cent, the lowest in 63 years. The lack of credit is in part due to the 2008/2009 stimulus, which focused less on boosting capital spending and more on offering cheap debt to those who would find it hard to pay the banks back. State owned lenders have about a 70 per cent market share of total lending. For these state-owned lenders, loans written off or considered at risk are nearly a fifth of the loan book. The resulting losses have left banks short of capital for fresh loans.

Adapted from: India's economy is back on track, © 2018, The Economist Newspaper Limited; India at 70 is still experiencing growing pains, © 2017, The Financial Times Limited; India's long road to prosperity, © 2017, The Financial Times Limited

Q

1 In 2016, India's GDP per capita was approximately $1710 (in current $USD). Its GDP in 2016 was $2.264 trillion (in current $USD). Calculate India's population in 2016. **(2 marks)**

2 Read the extracts provided and answer the following.
   (a) Explain what is meant by the term 'corruption' in Extract A. **(4 marks)**
   (b) With reference to Extract A, analyse the likely effect of the increase in India's saving rate between 1947 and 2018 on India's trend economic growth rate. **(6 marks)**
   (c) With reference to the information provided, examine the likely impact of a young population on India's economic growth and development. **(8 marks)**
   (d) With reference to the information provided, discuss the factors that may constrain India's economic growth and development. **(14 marks)**

3 In 2016, gross savings (the difference between disposable income and consumption) as a proportion of GDP was 37% in Bangladesh, 17% in Cambodia, 43% in Botswana, 12% in Kenya, 28% in Germany, 21% in France and 18% in the United States. Evaluate the extent to which a savings gap is the most significant constraint on economic growth in developing countries. **(20 marks)**

**EXAM HINT**

For Question 2d, identify possible constraints in the extract. Does the extract provide any evidence for which constraints are more significant than others?

**EXAM HINT**

For Question 3, make sure you can define the term 'savings gap' clearly. Analyse why a savings gap may be a significant constraint on economic growth for some developing countries. Evaluate by considering why a savings gap, even if it exists, might not be a constraint. Analyse other factors which might cause a constraint. Evaluate by considering under what circumstances these might be significant constraints for an economy. Use real world examples where possible.

# 41 MEASURES TO PROMOTE GROWTH AND DEVELOPMENT

UNIT 4
4.3.6

## LEARNING OBJECTIVES

- Understand there are many different types of development strategy including market-orientated strategies and interventionist strategies
- Understand the impact of a range of measures which can be used to promote development and growth; these include:
  - market-orientated strategies (trade liberalisation, promotion of FDI, removal of government subsidies, privatisation, floating exchange rate systems, microfinance schemes)
  - interventionist strategies (development of human capital, protectionism, managed exchange rates, infrastructure development, promoting joint ventures with TNCs, buffer stock schemes)
  - other strategies (industrialisation, development of tourism, development of primary industries, debt relief and aid)
- Understand the role of international institutions such as the World Bank, the International Monetary Fund (IMF) and non-government organisations (NGOs)

## GETTING STARTED

Choose a developing country. Use internet sources, such as the World Bank website, to research how much it has developed over the last 20 years. To do this, look up development indicators. Can you find any information about strategies that have influenced growth and development in that country?

LINK Student Book 1, Chapter 35

## DIFFERENT TYPES OF DEVELOPMENT STRATEGY

Economists and politicians have different opinions about the most effective development strategies for any individual country or group of countries. Some economists tend to recommend **market-orientated strategies**, which rely upon free markets to deliver economic development. Other economists tend to advocate **interventionist strategies**, where government plays a leading role, regulating and manipulating markets or bypassing markets through direct provision of goods and services. There are other strategies, discussed later in this chapter, that might be used to promote growth and development.

## MARKET-ORIENTATED STRATEGIES TO PROMOTE GROWTH AND DEVELOPMENT

### TRADE LIBERALISATION

**Trade liberalisation** is the removal or reduction of trade barriers between countries. One objective of trade liberalisation might be to gain from export-led growth. An increase in exports will increase aggregate demand, causing actual growth.

Removing trade barriers will also force domestic industries either to close or to become as efficient as any world producer. This increase in efficiency will promote supply-side growth. Specialisation and trade mean resources will be reallocated to those industries that produce goods in which the country has a comparative advantage in production. There is potential for all countries to gain.

LINK Student Book 2, Chapter 23

Trade liberalisation may help developing countries have access to technology. Removing trade barriers means developing countries can import more capital goods from abroad. This will help domestic firms in developing countries to increase their efficiency. Combining this with their lower wage costs means firms in developing countries will gain competitive advantages over developed economies in some industries. For example, over the past 50 years, developing countries have destroyed most of the textile industry in developed countries. They have done this partly by buying textile machinery from developed countries such as Germany and Italy.

However, there is no guarantee that all countries will gain from trade liberalisation. If an economy loses its comparative advantage in a sector, there will be significant short-term costs for the economy, because resources are not completely mobile between uses. For example, when the textile industry was destroyed in developed countries, this would have caused structural unemployment, so actual growth would have fallen.

## PROMOTION OF FOREIGN DIRECT INVESTMENT (FDI)

LINK Student Book 2, Chapter 21

Foreign direct investment can help remove some of the constraints on economic growth and development. For example:

- Inflows of FDI add to the resources which can be given over to investment, helping to close any saving gap or foreign currency gap. FDI is the largest source of external finance for many developing countries
- There is often a transfer of knowledge that adds to a country's stock of human and physical capital.

As discussed in Chapter 21, greenfield foreign direct investment is likely to have a positive impact on growth for recipient countries.

The Global Investment Competitiveness report of 2017/2018 said FDI is good for development. In 2016, more than 40 per cent of the global $1.75 trillion FDI flows were to developing countries. The report stressed the productivity gains for these countries. The research concluded that a business-friendly regulatory environment and political stability were the top two factors influencing transnational companies' investment decisions in developing countries. Other factors include good infrastructure, access to land and low tax rates. So, to promote FDI, a developing country will have to find ways to offer some of these advantages. However, some measures used to attract FDI might cause other problems. Chapter 35 discussed the advantages and disadvantages for a country in using low tax rates as a strategy to encourage FDI inflows.

By the 1990s, it was obvious that FDI flows could be of significant benefit to developing countries. The challenge became how to attract FDI flows while at the same time ensuring they created economic development in the developing country.

## REMOVAL OF GOVERNMENT SUBSIDIES

The governments of many developing countries provide a wide range of subsidies. Many of these subsidies target essential items – such as food or fuel – that make up a disproportionate share of spending of low-income households. Other subsidies target agriculture and industry in a bid to increase output and investment.

Subsidising essential items can be an effective way of minimising absolute poverty. It can ensure that prices are low enough for poor households to buy sufficient food and fuel to stay alive. They are an easily understood and politically popular method of government intervention.

However, there are a number of problems with subsidies. As a result, the removal of government

## ACTIVITY 1

SKILLS ANALYSIS, DECISION MAKING, CRITICAL THINKING

### CASE STUDY: FOREIGN DIRECT INVESTMENT IN RWANDA

In 2015, Candy Ma, a 40-year-old Chinese entrepreneur, had just hired 200 trainee workers at her new government-built factory in Rwanda. She planned to export 30,000 t-shirts a month and expected to expand to 2000 workers by 2016.

This type of investment is a new trend. Chinese factory owners, driven by a strengthening renminbi and rising wages at home, are relocating to regain a competitive advantage. The World Bank says China is set to lose 85 million manufacturing jobs in the next decade. This means some countries, such as Rwanda, are likely to benefit. One of the attractions of African countries is their trade agreements with the US and Europe, which means their finished products, such as textiles, avoid import duties of up to 30 per cent.

Ms Ma believes the advantages of Rwanda's business-friendly government, the country's cheap, disciplined labour force and ready-made factory space outweigh the other transportation challenges. 'In two days these people (her Rwandan workers) are already understanding how to use the machines. Next week, my standard can come to exporters' standard.'

Rwanda, in an effort to boost foreign currency earnings, offers large tax rate reductions to boost inward foreign direct investment. Ms Ma's new factory is in Kigali's new government-backed Special Economic Zone, which offers investors reliable supplies of power and water, road links and land.

1 How does the Rwandan government promote inward foreign direct investment?
2 How can inward foreign direct investment by companies such as Chinese manufacturers help the economic development of Rwanda?

subsidies is often regarded as a strategy for promoting development. The reasons for this include:

- Subsidies are poorly targeted if everyone in the population can buy the subsidised goods. If everyone can buy subsidised rice, for example, rich households benefit even though they do not need the subsidies.
- Economic theory suggests that welfare would probably be higher if poor households were given cash payments. The payments could be targeted, avoiding the problem of everyone being able to buy subsidised goods.
- Where subsidies are given to farmers or industry, government is saying that it is better at allocating scarce resources than free markets. This may not be the case.
- Subsidies can easily become a significant proportion of total government spending. There is then a large opportunity cost in development terms. The money used for subsidies is not available to spend on education, health care or building infrastructure.
- Subsidies can be a major source of corruption and criminality. For example, in Venezuela, subsidised fuel is smuggled across its borders and sold in neighbouring countries at a higher price.

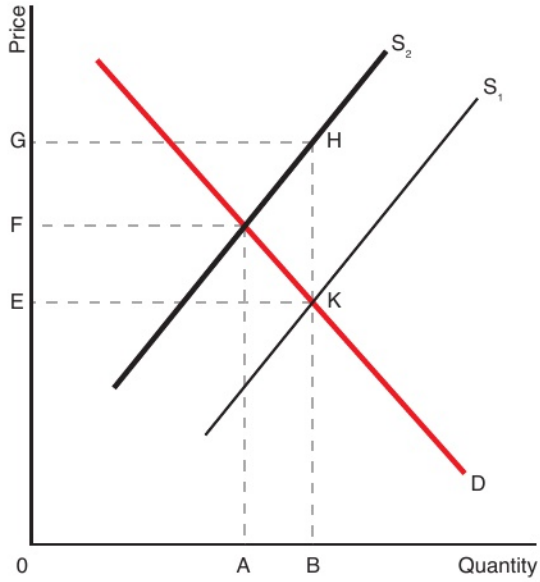
Figure 1 shows the effect on price and quantity of removing a subsidy. With a subsidy of EG per unit, quantity demanded and supplied is OB. Removing the subsidy shifts the supply curve to the left from $S_1$ to $S_2$. Quantity demanded and supplied falls to OA while price rises to OF. The government is now spending EGHK less in subsidies (the subsidy EG × the quantity bought OB). If the good is a necessity such as a basic food, the demand curve is likely to be relatively inelastic. The more price inelastic demand is, the greater the impact of a subsidy on equilibrium price. Removing the subsidy will therefore lead to a larger increase in price than if the demand curve was more price elastic.

The best time for a government to remove a subsidy is when the free market price of the good is falling. In an ideal situation, the free market price of a good falls, for example, by 20 per cent when the subsidy is also 20 per cent. Removing the subsidy then leads to no or little change in price.

**FIGURE 1**

**Removing a subsidy**

Removing a subsidy of EG per unit on a good leads to a rise in equilibrium price of EF and a fall in quantity demanded and supplied of AB.




## PRIVATISATION

In the 1960s and 1970s, many developing countries were influenced by socialist and Marxist theories of development. These theories advocated interventionist policies that included state ownership of many key industries.

However, privatisation is recommended by free-market economists. They argue that the discipline of the market forces firms to cut their average costs to a minimum, leading to productive efficiency. They also have to be allocatively efficient, giving customers what they want to buy. In contrast, nationalised industries have no incentive to be efficient. So, privatisation in developing countries can be a powerful way to increase efficiency and therefore economic growth. Nationalised industries can also lead to high fiscal deficits for a government. This can restrict economic growth and development if there are high costs of debt servicing – for example, less money will be spent on health, education and infrastructure.

However, where nationalised industries are privatised as monopolies, there are no competitive pressures. Hence the privatised monopoly can be as inefficient as it was in state hands. Privatisations in developing countries can easily be associated with corruption. An easy way for politicians or government officials to get rich is to sell a nationalised company at well below its market value to a family member or a friend. Equally, large bribes can change hands at the time of privatisation.

## FLOATING EXCHANGE RATES

Most governments have a choice about which type of exchange rate system (explained in Chapter 29) to use for their currency. The few that do not are

countries that are part of a monetary union such as the Eurozone. Some countries use a floating exchange rate system. Market forces determine the value of the currency. The advantage of this is that governments do not have to intervene and do not have to worry about their gold and foreign currency reserves running out. Another advantage is that depreciation, when it occurs in a floating exchange rate system, is likely to cause export-led growth.

There are two main disadvantages of such regimes. One is that the value of the currency is likely to be volatile. Volatility makes it difficult for exporters and importers to make decisions about the future. The other disadvantage is that it can lead to swings in macroeconomic variables, such as economic growth, inflation and unemployment. Large rises in the exchange rate, for example, can lead to lower exports and higher imports. This reduces GDP and is likely to increase unemployment. On the other hand, inflation will fall. Not controlling the value of the currency means that a country is very vulnerable to exchange rate swings.

### DEVELOPING A FINANCIAL SECTOR

Poorer developing countries have relatively weak financial sectors, because the provision of banking services for low-income households and firms with small revenues is unlikely to be profitable and may be deemed too risky. Moreover, many of the borrowers in developing countries lack the necessary collateral to borrow from formal financial institutions.

**Microfinance schemes** are one way of reaching out to low-income households. These are schemes started by NGOs (non-governmental organisations, some of which are charities), whereby very small loans are given out to individuals who would otherwise not have access to borrowed money in the formal sector. Interest rates are reasonable and often lending is done within the context of a group, like a village. Social pressure encourages people taking out loans to be responsible with how the money is spent and encourages repayments. Particular groups such as women, who often have less access to finance than men, may be targeted. Microfinance allows individuals to invest in the businesses they already own or to start up new businesses.

However, microfinance schemes have been criticised for not helping the poor, with many women being forced to sell off essential items, such as livestock and cooking pots, to make their weekly repayments. Also, the finance offered can be too low to make a significant difference. Lenders are also reluctant to accept more risk, partly because the interest rates they charge can be capped through regulation.

In recent years there has been an upward global trend in the use of digital banking. For example, Kenya's M-Pesa mobile payments system has grown since its launch in 2007 to about 70 per cent of adults using it by 2017. In Asia, by 2017, one in four people were using online banking. So, advances in technology within the financial sector, combined with greater access to the internet in developing countries, is helping to promote economic growth and development.

## INTERVENTIONIST STRATEGIES

### DEVELOPMENT OF HUMAN CAPITAL

Education and skills have long been recognised as an important factor in economic development. Countries that invested heavily in education when they were still relatively poor, such as China and South Korea, have benefited in the long term. Education raises the human capital of the population and allows workers to be more productive.

There is much debate, however, about what sort of education is most important. Universal primary school education, for example, is almost certainly a higher priority than sending an extra five per cent of secondary students to university. There are also issues concerning over-education. If, for example, university graduates cannot get graduate-level jobs, would the money spent on their education have been better spent on other development goals?

In many developing countries, a large proportion of children now complete primary school education. However, the quality of education can be very different between countries. Poor rural and remote areas can also suffer disproportionately. Strategies for development are therefore likely to focus on methods to improve quality. Some of these may arise from government failure. For example, as reported by the World Bank, teachers posted to Indonesia's poor and remote areas were given an unconditional special allowance. This seemed to cause a higher rate of teacher absence, compared with teachers who did not receive the allowance. New laws have now been passed to link this allowance with teacher performance. This may help to improve the quality of education for children in these areas.

### PROTECTIONISM

At times, countries might believe that their own development could best be promoted through a policy of import substitution, the deliberate attempt to

replace imported goods with domestically produced goods by adopting protectionist measures.

In 2018, protectionism was more widely used by some countries as a means of promoting economic growth and development. Examples include:

- The USA introduced steel tariffs as a means of protecting its steel industry. The likely objective was to protect US jobs and so, at least in the short run, promote economic growth.
- In January 2018 the Indian government announced that it planned to introduce 70 per cent tariffs on solar panels imported from several countries, but mostly directed at China. India's panel makers would benefit from these tariffs. The objective was to promote domestic manufacturing in India as part of the 'Make in India' scheme. As discussed later in this chapter, promoting manufacturing (**industrialisation**) is often used as a strategy to promote economic growth and development in an economy.

Countries wishing to diversify away from exporting commodities can give short-term selective assistance to their manufacturing industries. The objective is to provide protection while these industries are infant industries. The newly industrialised nations of Brazil and Mexico, and particularly the economies of Hong Kong, South Korea and Singapore, have enjoyed above-average growth by adopting such a strategy. Import substitution policies might create jobs in the short run, as domestic production replaces foreign production. However, criticisms include:

- Long run, output and growth of output will be lower than they would otherwise have been, because import substitution denies the country the benefits to be gained from specialisation.
- Protectionism leads to dynamic inefficiency. Protected domestic producers have no incentive to reduce costs or improve products because there is a lack of foreign competition.

Countries which have adopted import substitution strategies have tended to experience lower growth rates than other countries, particularly if they are small countries. The larger the country, the more opportunities there are for specialisation within the country.

## MANAGED EXCHANGE RATES

A managed exchange rate is an interventionist strategy. Governments can choose to manage a single exchange rate, buying and selling currency to fix an exchange rate.

- A high value exchange reduces the cost of imports. This is beneficial for growth if it encourages more imports of capital goods (investment goods).
- A low value exchange rate increases price competitiveness in foreign markets and leads to export-led growth.

However, speculation in currency markets is so large that countries find it very difficult to maintain an exchange rate even within a broad band over a number of years.

One of the most interventionist types of policy is to fix a number of different exchange rates. For example, there might be a high exchange rate for imports of essential products, a lower rate for imports of other goods, and an even lower rate for exports. Foreign currency is managed through the central bank, which controls how much foreign currency will be available, for example, for imports of essential goods and imports of all other goods.

- A high exchange rate for imports of essential products means that the domestic price of these goods is low. This helps reduce poverty if they are essential consumer goods. It encourages investment if they are investment goods.
- A lower exchange rate for other imports means that the domestic price of these goods is higher, discouraging their import. So less scarce foreign exchange is likely to be used for non-essential imports than if the exchange rate was free floating.
- A very low exchange rate for exports means that exports are price competitive in foreign markets.

An added advantage of fixing exchange rates in this way is that there is exchange rate stability. Exporters and importers can plan for the future.

In practice, tiered exchange rates rarely work in the way intended. Black markets in foreign exchange always develop which can destabilise the system. Governments do not necessarily fix the right exchange rates to achieve their policy objectives. The greatest problem is corruption. Tiered exchange rates are an open invitation for government officials and politicians to get hold of allocations of currency at one exchange rate and sell it at a profit at another exchange rate. Corruption is a significant factor holding back economic development in many countries.

## INFRASTRUCTURE DEVELOPMENT

Infrastructure is essential for economic development. For example, a coastal country needs well-functioning ports if it is to export and import efficiently. A land-locked country needs good roads, railways and airports for trade and the movement of people. Schools and hospitals need to be built.

A government may also choose to spend more money on infrastructure as a means of achieving faster economic growth. For example, Chinese economic planners have turned more heavily to infrastructure as

a stimulus since 2015 compared to further investment in manufacturing. In China, injecting more investment in manufacturing as part of a post-2008 stimulus caused overcapacity in many industries. So further investment spending is being channelled into roads, railways and water projects.

China's commitment to infrastructure spending, both in terms of funding and getting projects finished, is often viewed as a significant reason why its economic growth has far outpaced India's over the past few decades. By 2018, China was already half way through a three-decade $300 billion expansion of its motorway system which will connect all Chinese cities with a population of more than 200,000 people. In contrast, India's road projects can be delayed due to legal challenges, funding shortfalls and the inability to acquire land.

One interventionist approach to infrastructure development is for government to be the main builder of infrastructure. In a country like Spain, for example, the government is responsible for building and maintaining roads, schools and hospitals. A more free-market approach is for government to allow private sector companies to develop infrastructure, sometimes through private finance initiatives (PFIs). For example, many seaports and airports around the world are owned by private sector companies. The private sector can also build and operate hospitals and schools.

Who should provide infrastructure depends on a number of factors. One is profitability. The private sector will only build and operate infrastructure if it is profitable. Another factor is efficiency. Free market economists argue that the private sector is more efficient in general than the public sector. For example, the total cost of building a new container port is likely to be lower if it is owned, built and operated by a private sector company than by government. A third factor is availability of resources. A government may not have the resources from its budget to build, for example, a new port: going ahead with the project may mean the government builds up too much public sector debt. Allowing the private sector to fund the development may allow the project to go ahead.

Some large infrastructure projects in a number of developing countries have not given the benefits intended. They may have been poorly built and poorly maintained. In the case of dams, they have been criticised for creating large-scale environmental damage as well as displacing large numbers of people from their lands, although critics argue that freeing up available land allows the project to go ahead quickly so that long delays are not experienced. Infrastructure projects are also often associated with bribery and corruption.

## PROMOTING JOINT VENTURES WITH TNCS

LINK Student Book 2, Chapter 1

FDI can be associated with exploitation where foreign companies take far more from their investment than the country receives in benefits. One way of reducing perceived exploitation is for a government to insist on major investment being set up as a **joint venture**. For example, the government of a developing country may allow a US car vehicle manufacturer to establish a car plant in its country. However, it may insist that US manufacturer finds a local partner to create a jointly owned company for the car plant. Ownership may be 50:50, with the US company only owning half the company. By doing this, the government ensures that only half the profits of the car plant will go back to the US. At first, the local partner is likely to provide finance rather than knowledge. However, once the car plant is established, there will inevitably be a transfer of knowledge to the local partner. This knowledge may be used to develop other activities shared more widely in the local business community and among local workers.

In recent times, some critics have expressed concern that developed countries may actually lose out when they invest in developing countries. For example, Donald Trump, the president of the US, thinks joint ventures are often simply a way for developing countries to make quick gains at the expense of developed countries by stealing their technology.

## BUFFER STOCK SCHEMES

The price of commodities is volatile over time. This is a problem for developing countries that rely upon commodities for exports, jobs and government income. One way of stabilising commodity prices is to set up a **buffer stock scheme**. This is likely to be set up by a group of governments to fix world prices for a commodity. Equally, it could operate within a country assuming that exports and imports are controlled.

A buffer stock scheme that works effectively over a long period of time has a number of possible advantages.

- By stabilising prices, it encourages firms in the industry to invest. If it is an agricultural commodity such as rice, it gives farmers an incentive to plan for the long term.
- It prevents sharp falls in prices. If it is an agricultural commodity, it could prevent the poorest farmers sinking into absolute poverty.
- Consumers will also benefit from less price volatility.

Buffer stock schemes combine elements of both minimum and maximum prices. Typically a minimum

price is set for the commodity. If the free market price threatens to go below the minimum price, then the buffer stock scheme will buy the commodity. This increases demand and raises prices. The buffer stock scheme may also set a maximum price where it will sell the commodity. This increases supply, reducing price.

The 'buffer stock' is a physical stock of the commodity held in warehouses. When the free market price is below the minimum price, stocks will rise as the scheme buys in the market. When the free market price is above the maximum price, stocks will fall as the scheme sells in the market. For the scheme to work effectively over time, stocks must rise and fall. If they only rise, the scheme will run out of money to carry on buying. If they only fall, eventually there will be no stocks left to sell to reduce prices.

A buffer stock scheme can be shown on a diagram. In Figure 2(a), the buffer stock agency has set a maximum price or ceiling price for the commodity of ON and a minimum price or floor price of OL. The equilibrium price of the commodity is currently OM while OG is demanded and supplied. The buffer stock agency does not have to intervene in the market because the price of OM is between the maximum and minimum prices. Now assume that supply increases to $S_2$, as in Figure 2(b). The free market equilibrium price falls to OK. This is below the minimum price of OL. The buffer stock agency buys HJ of the commodity, i.e. demand has to increase by HJ. This is just enough to raise the price to the minimum or floor price. Now assume that supply falls to $S_3$, as in Figure 2(c). The free market equilibrium price is OR, above the maximum price. So the buffer stock agency has to sell EF. This increases supply by EF and brings the price down to ON, the maximum price.

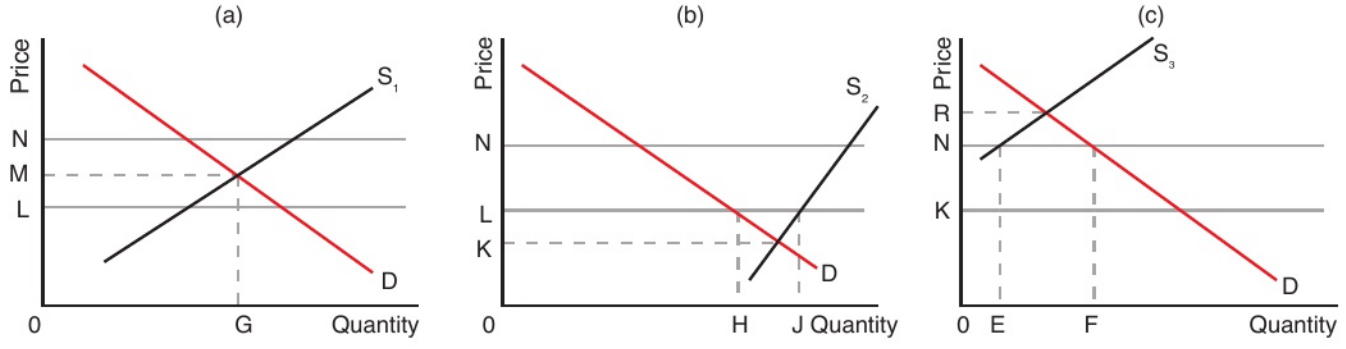
Buffer stock schemes are not common.

- A considerable amount of capital is needed to set them up. Money is required to buy produce when prices are too low. There are also the costs of administration, transport and storage of produce purchased. If the commodity is a food commodity, it may deteriorate in storage, adding to costs.
- Those funding the buffer stock scheme must feel that it is benefiting them substantially because others may also benefit without incurring any of the costs. For example, a small group of countries whose farmers produce 60 per cent of world output in a commodity might set up a scheme to control world prices. There is nothing the scheme can do to prevent farmers in countries producing the other 40 per cent from benefiting from less volatile prices. Those 40 per cent become free riders on the scheme.
- The main reason buffer stock schemes are not common, however, is because minimum prices tend to be set too high. In the short term, this benefits producers because they get higher prices than the free market price. In the long term, it is unsustainable. Stocks carry on building up and eventually the buffer stock scheme runs out of money and collapses. Stocks are then sold off, depressing the free market price. In this phase, producers are worse off because they are getting below what would otherwise be the free market price.

**FIGURE 2**

**Buffer stock scheme**

In (a), the maximum (ON) and minimum (OL) prices set by the buffer scheme are shown. The free market price of OM is between these limits and so there is no intervention. In (b), the free market price of OK is below the minimum price. So the buffer stock scheme has to increase demand by buying HJ to raise the price to OL. In (c), the free market price is above the maximum price. So the buffer stock scheme has to increase supply by selling EF to lower the price to ON.



Where a buffer stock scheme is operated within a country or small group of countries, there are additional costs. The buffer stock scheme may be funded by taxpayers and operate at a loss. So taxpayers effectively subsidise commodity producers, usually farmers. If the minimum price is set too high, stocks will rise. A way of getting rid of some of these stocks is to sell them at a loss on world markets. This increases supply on world markets, depressing prices. Commodity producers worldwide then receive less income. If it is an agricultural commodity, such as wheat or rice, poor farmers in other countries become even poorer as the value of their crop falls.

## THE IMPACT OF OTHER STRATEGIES

### INDUSTRIALISATION (THE LEWIS STRUCTURAL DUAL-SECTOR MODEL)

Developed countries have large service industries and very small agricultural sectors measured in terms of output and employment. To achieve this, they went through a stage where there was a rapid expansion of manufacturing industry before this shrank in relative importance. Industrialisation is therefore a key feature of economic development of mainly agricultural economies.

W. Arthur Lewis was an economist who used this to focus on the role of migration in developing countries. He argued that growth could be sustained by the gradual transfer of workers from low-productivity agriculture (the traditional sector) to higher-productivity urban secondary and tertiary industries (the modern sector). The industrialisation of the economy, therefore, can be seen as an objective of development.

He assumed that marginal workers in rural areas added nothing to the output of the rural economy (i.e. their marginal productivity was zero). Either they genuinely did not work (i.e. they were unemployed) or the work that they did could have been performed by existing workers, with no effect on total output (i.e. there was a large amount of underemployment in the rural economy). Workers could gradually be transferred into the urban higher-productivity sector. The rate of transfer depended on the rate of capital accumulation in the modern sector of the economy. The greater the investment, the faster the transfer. Eventually, nearly all workers will have been transferred from the traditional sector to the modern sector and the economy will have become developed.

Interventionist economists suggested that governments should promote industrialisation in order to create economic development. Some countries, such as South Korea, have prospered from governments favouring the growth of private manufacturing companies from shipbuilding to car manufacturing to electronics.

However, there are many problems with the Lewis model:

- If a government builds steel plants and car manufacturing facilities, will this cause economic development to happen? In most countries forced industrialisation has tended to lead to a waste of scarce resources because these industries have failed.
- There has been a steady drift of people from rural areas into cities throughout the developing world. However, marginal workers in cities can often have as low incomes and be as underemployed as marginal workers in the countryside.

There is no simple relationship between poverty in the countryside and affluence in towns. Industrialisation can be argued to be the result of economic development rather than a cause. Migration from the countryside to the town is the result of higher incomes and growth in urban jobs. Encouraging rural depopulation will simply lead to urban poverty, not increased affluence.

### DEVELOPMENT OF TOURISM

Developing countries are increasing their exports of services over time. One example is tourism.

Tourism has a number of advantages for developing countries compared to, say, manufacturing:

- Demand is income elastic, so as GDP rises in other countries, the demand for tourism services in the developing country should rise by a greater proportion.
- It is labour intensive and therefore creates a large number of jobs in relation to capital employed. Many jobs do not require much education or training and so are accessible particularly to the poor. Jobs are particularly available to women and young people who might otherwise find it hard to get a job.
- Promoting tourism should improve the current account of the balance of payments: credits on the balance of trade in services will increase. This will provide vital foreign exchange earnings and help fill the foreign currency gap.
- There can be a significant multiplier effect if the local tourist industry can supply locally made products for tourists to buy. Promoting tourism may therefore lead to a significant increase in real GDP.

There are criticisms made of the impact of tourism on economic development. A developing country

may become more vulnerable to external shocks – a recession in developed countries will reduce tourists to developing countries. There are also often external costs on the environment, for instance, the local shore line is damaged by the building of hotels. However, many countries which have become tourist destinations have strongly welcomed the opportunity to gain export earnings and diversify their economies.

## ACTIVITY 2

SKILLS REASONING, ANALYSIS, CRITICAL THINKING

### CASE STUDY: PROMOTING TOURISM IN INDONESIA

Indonesia has a target to double the number of overseas tourists in coming years as part of its efforts to diversify the economy. With China's growing middle classes, there is an opportunity for Indonesia to develop its tourism industry. In 2013 Indonesia attracted 8.8 million overseas visitors, according to the World Economic forum, and raised $9.1 billion USD in tourism revenues. This is far lower than the 26.5 million travellers that generated $42.1 billion for Thailand.

'Indonesia is not just Bali,' said the finance minister. With this in mind, the government has picked ten priority destinations, such as Lake Toba in North Sumatra and the Flores archipelago east of Java, where national and local government will cooperate to develop infrastructure and market the destinations to foreign tourists. By adding 10 million new foreign visitors a year, the World Bank estimates Indonesia could create 1 million new jobs and add $27 billion to GDP.

1 What are the opportunities for the Indonesian tourist industry from the growth of a middle class in China?
2 Should the Indonesian government promote the development of tourism or manufacturing?

## DEVELOPMENT OF PRIMARY INDUSTRIES

Countries such as Saudi Arabia, Chile, Australia and Norway have seen significant economic development because they have a comparative advantage in production of certain primary commodities. Oil, copper, coal and iron ore have created income and employment. For example, Zambia is Africa's second biggest copper producer. The sector was a key driver of Zambia's economy and helped it achieve one of the world's fastest economic growth rates between 2005 and 2015. China accounts for more than 40 per cent of the metal's global consumption. So rapid economic growth in China is important for Zambia: it keeps copper export volumes as well as copper prices high.

However, as explained in Chapter 40, commodities can be highly damaging to an economy as well as highly advantageous. For example, Zambia depends on copper for about 70 per cent of its foreign exchange earnings and 25 to 30 per cent of government revenue. So the fall in copper prices in 2015, caused by the slowdown in China, widened both the current account deficit and the fiscal deficit. Zambia's economic growth in 2015 was only 2.9 per cent, compared to a high of 10.3 per cent in 2010, the height of its boom years.

Whether development of primary industries benefits an economy depends on the economic policies pursued by government. Successful economic development in commodity-rich countries tends to result from the use of commodity revenues to diversify the economy. The smaller the proportion of GDP from commodities, the less vulnerable an economy is to commodity price changes. This was why the government in Zambia announced in 2015 that it wanted to diversify the economy and reduce the country's dependence on copper.

Government policy also needs to address the problem of too high an exchange rate destroying non-commodity local industries. Norway, for example, has a sovereign wealth fund. The government sets aside a significant portion of its oil revenues and invests these overseas. This increases the supply of the Norwegian currency, the krone, which offsets the demand for krone to buy Norwegian oil. This prevents Norwegian non-oil industries from being priced out of export markets and domestic markets due to a high value of the krone, thus avoiding Dutch Disease (see Chapter 40).

Primary industries are also a major source of corruption in many countries, another aspect of the resource curse (as explained in Chapter 40). The less corruption, the more likely it is that the country will benefit from the exploitation of primary commodities.

## DEBT RELIEF (DEBT FORGIVENESS)

In the 1970s and early 1980s, the governments of a number of developing countries borrowed money which later they were unable to repay or service the interest on the loans. They fell into a debt trap. The result for a number of countries was nearly two decades of low economic growth. These governments found it difficult, if not impossible, to borrow on international markets because they were already so indebted. They were forced to adopt what today are called fiscal austerity policies. Their countries also had to export more than they imported in order to earn the foreign currency to make repayments on debts.

By the 2000s, most countries had recovered from the debt crisis of the 1980s. A number of low-income developing countries, however, (called Highly Indebted Poor Countries or HIPCs) were still affected by debt and it was recognised by developed countries and multilateral agencies such as the IMF that debt relief should be given.

Those arguing in favour of debt relief put forward a number of arguments.

- The debt was relatively small for the countries and agencies that were owed the money.
- Debt relief helps to reduce absolute poverty with more resources available to governments to improve living standards.
- Debt relief reduces the foreign currency gap so there is more currency available to import capital goods. This promotes growth.
- Interest payments on the debt had already exceeded the value of the original debt and therefore it was unfair to make poor countries pay more.
- The governments that had originally taken on the debt were often either foolish or corrupt and had been pressured or persuaded into taking on the debt in the first place. Why should poor people today still be paying for the mistakes of a government in power 25 years ago?

However, there were some who argued against debt forgiveness.

- It created a dangerous example for future decision-makers. There was a moral hazard in debt forgiveness because every poor country would in future expect to receive debt relief on loans taken out today. This would cause irresponsible borrowing in the future too.
- Debt relief reduced pressure on weak governments to adopt good and appropriate economic policies.

Today, governments of a small number of developing countries find themselves in the same situation as the highly indebted countries of the early 2000s. They have made the same mistake of borrowing too much when economic conditions were favourable only to find themselves unable to service those debts when economic conditions deteriorated. There are no easy solutions to problems of past mismanagement since lenders such as the IMF are reluctant to offer debt relief without major economic changes being effected in these countries. These major economic changes, such as significantly higher taxes, inevitably lead to lower living standards for populations today.

## FOREIGN AID

**Commercial loans** are one way of financing development. Foreign aid is another. Foreign aid can take a variety of forms.

**Grants** The most generous form of aid is a grant. A donor country might, for instance, give a sum of money to a developing country for a development project or it might offer free technical expertise. Humanitarian aid for natural disasters such as earthquakes and famine is another example of grant aid.

**Loans** Aid might take the form of a loan. The loan might be at commercial rates of interest, in which case the donor country is giving little, if anything, to the developing country borrower. Or it might be a soft loan, a loan which carries a lower rate of interest than the commercial rate of interest.

**Tied aid** Aid with conditions attached. For example, Chinese loans to the Sri Lankan government to build the Hambanthota port came with conditions – the construction firm was to be Chinese and some Chinese workers were to be employed

**Bilateral aid** is given directly from one country to another. A loan from China to Kenya would be an example.

**Multilateral aid** describes the situation when donor countries give money to an international agency, such as UNICEF (the United Nations Children's Fund), and the agency then disperses the aid. Most bilateral aid is tied in one form or another while multilateral aid is generally not tied.

Reasons why aid can help growth and development include:

- Foreign aid can help to reduce absolute poverty. For example, aid spent on new health clinics will help to ensure basic needs are met.
- Foreign aid can help to fill a savings gap. This should increase investment, setting off positive multiplier effects.
- Foreign aid can help fill a foreign exchange gap. This may help finance more imports of capital goods or it can be used to pay interest on debt owed to foreign investors.

Foreign aid has undoubtedly helped millions of people in developed countries to achieve a better standard of living. However, foreign aid has been increasingly criticised by those in both developed and developing countries.

- It is assumed in the economic argument presented above that governments of developing countries want to maximise the economic welfare of their citizens. However, governments may serve the interests of a narrow range of groups in society, often better-off urban dwellers. Foreign aid can be diverted into serving the needs of these groups rather than achieving genuine economic development.
- Aid may not reach those intended, perhaps due to corruption in the government.
- It can be difficult for Western aid agencies to know what sorts of projects will best promote development for a country.
- Tied foreign aid, especially in the form of loans, may result in developing countries getting a worse 'buy' than if they shopped around internationally for the cheapest product.
- Loans need to be repaid with interest. The repayment of loans has resulted in enormous problems for developing countries, both in the past and today.
- Aid may promote a dependency culture, so governments do not actively improve their own policies to promote growth and development.

With the recent fast growth of many developing countries, foreign aid has become less and less relevant to the development agenda for most developing countries. Foreign aid is therefore now focused mainly on the poorest countries in the world.

## THE ROLE OF INTERNATIONAL FINANCIAL INSTITUTIONS AND NON-GOVERNMENT ORGANISATIONS

International financial institutions have a variety of roles to play in development.

### THE INTERNATIONAL MONETARY FUND (IMF)

The IMF was one of a group of institutions founded in 1945 to promote world development and stability. Its specific purpose is to 'promote international monetary co-operation, exchange rate stability, and orderly exchange rate arrangements; to foster economic growth and high levels of employment; and to provide temporary financial assistance to countries to help ease balance of payments adjustment' (IMF). It was not founded to promote economic development.

Instead, its role is to ensure that exchange rate systems are working well. When there are international exchange rate crises, such as the Asian financial crisis of 1997 or the Greek debt crisis starting in 2010, it can provide temporary assistance in the form of loans to help countries affected.

Where there are more deep-rooted problems such that a country cannot afford to pay its international debt out of its export earnings, the IMF can lend money in the short term. But it insists that the country makes macroeconomic reforms to resolve the problem. The reform programme can be painful because it involves reducing imports and increasing exports and so reducing the amount of resources available for domestic consumption.

As well as lending, and particularly in response to the Global Financial Crisis, the IMF in recent years has also provided forecasts, analysis and advice to countries.

The IMF has attracted a great deal of criticism over the years from countries that have been forced to borrow money from the IMF and then sign up to agreements which give them some chance of repaying the loans and solving the problem which originally caused the crisis. Inevitably the reform programme is painful because it involves reducing imports and increasing exports, so reducing the amount of resources available for domestic consumption.

However, countries are not forced to involve the IMF in their difficulties. They could, for example, simply default on their debts. The fact that few countries do this is because the cost to an economy of a government defaulting on its foreign currency debts is usually greater than the costs of signing up to an IMF reform programme. Defaulting on debts means that a country is unlikely to be able to borrow again on international markets in the short term. This could bring foreign trade to an almost complete stop.

### THE WORLD BANK

The World Bank was founded, like the IMF, after the Second World War. Unlike the IMF, it was set up to promote economic development. It is made up of two institutions. The International Bank for Reconstruction and Development (IBRD) focuses on middle income and poor countries considered able to repay debts. The International Development Association (IDA) focuses on the poorest countries in the world. The World Bank 'provides low-interest loans, interest-free credit and grants to developing countries for education, health, infrastructure, communications and many other purposes. Some of our projects are co-financed with governments, other multilateral

institutions, commercial banks, export credit agencies, and private sector investors'.

The World Bank has its critics. They argue that the World Bank, like the IMF, is an agent of Western and in particular US imperialism, imposing faulty development policies on poor developing countries.

## NON-GOVERNMENTAL ORGANISATIONS (NGOS)

NGOs are, as the name implies, organisations which are separate from government and are not commercial, profit-making organisations. There is a wide range of NGOs from local community action groups to charities to pressure groups. NGOs are important for economic development in two ways.

First, they may provide direct assistance in the form of project work. Charities such as Oxfam or Mèdecins Sans Frontières run a large number of projects in developing countries, providing education, digging wells or giving health care assistance.

Second, they may act as pressure groups, encouraging governments and other organisations to adopt what they see as more pro-development strategies. In the developing world, NGOs may be set up by people to benefit themselves. For example, the women in a village may set up an organisation to provide education for their children or a co-operative to sell their produce.

Critics of NGOs say that, while they do much good work, NGOs in themselves will never solve the development problem. Only governments can put in place the structures which will promote and maintain development.

| | 1967 | 1983 | 1996 | 1999 | 2010 | 2016 |
|---|---|---|---|---|---|---|
| Exports | 9 | 26 | 26 | 36 | 25 | 19 |
| Imports | 16 | 28 | 26 | 27 | 23 | 18 |

### CHECKPOINT

1. What is import substitution?
2. State one disadvantage of using protectionism as a strategy to promote growth.
3. Give one reason for removing subsidies and using cash payments instead.
4. What are the two main disadvantages of using floating exchange rates?
5. Why is infrastructure essential for development?
6. What is the main advantage of privatisation as a strategy for growth and development?
7. What is industrialisation?
8. Show how industrialisation might promote growth and development.
9. State two advantages of the development of tourism for a developing country.
10. What is the role of the IMF?

### SUBJECT VOCABULARY

**bilateral aid** when aid is given directly by one country to another

**buffer stock scheme** a scheme whereby an organisation buys and sells in the open market so as to maintain minimum and maximum prices in the market for a product

**industrialisation** when an economy moves from one where output and employment are dominated by agriculture to one where manufacturing has a much higher share

**interventionist strategies** strategies where government plays a leading role, regulating and manipulating markets or bypassing markets through direct provision of goods and services

**joint venture** a company that is owned by, usually, two major firms or a firm and a government

**market-orientated strategies** strategies which rely upon free markets to deliver economic development

**microfinance schemes** when very small loans are given out to individuals, by non-governmental organisations, who would otherwise not have access to borrowed money

**multilateral aid** when donor countries give money to an international agency, and the agency then disperses the aid

**tied aid** offering aid on the condition that it is used to buy goods or services from the provider of the aid

**trade liberalisation** the move towards greater free trade through the removal of protectionist barriers to trade

## THINKING LIKE AN ECONOMIST

### INDUSTRIALISATION AND DEVELOPMENT

In 1954, W. Arthur Lewis, a Nobel prize winning economist, argued that development occurs as labour shifts from unproductive 'traditional-sector' activities, such as rural subsistence farming, into the higher productivity urban manufacturing sector.

For many economies, such as South Korea and China, sustained growth has been built on manufacturing. Although factories at first create lots of low-skilled jobs, manufacturing productivity in poor countries quickly catches up with the most advanced economies. Economies with past developmental success stories have moved from low-margin, labour intensive goods manufacturing, such as clothing and toys, to electronics assembly, then on to component manufacturing. Countries such as Japan and South Korea have moved on even further, to advanced manufacturing, design and management.

Most African countries have seen less economic development than Asian countries, such as China and India. Industrialisation might be a way to promote economic growth and development across Africa. The output of the average African manufacturing worker is five times that of his agricultural counterpart. Moving people from farms to jobs in factories or high value services would surely boost economic growth. If the sectoral distribution of African workers was the same as in advanced economies, then productivity in Ethiopia would increase six-fold; in Senegal it would increase by a factor of 11.

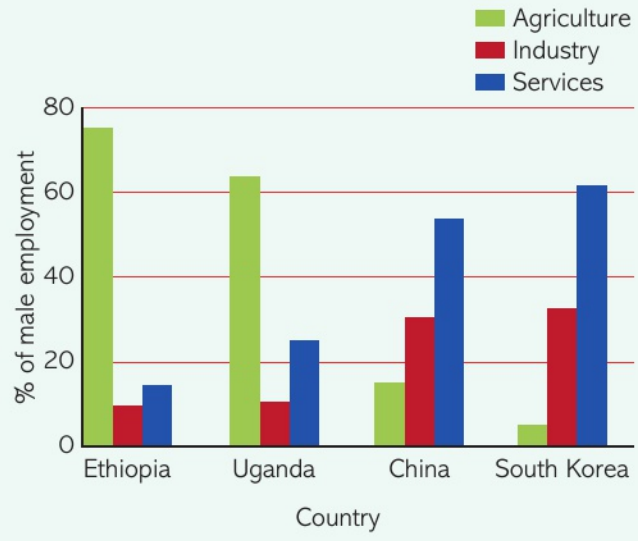
But has this happened? Between 2000 and 2010, structural change did move people out of agriculture. The proportion of Africans employed in agriculture fell by 11 per cent; this change was especially large in places with a lot of farmers, such as Ethiopia, Malawi and Tanzania. However, this was no industrial revolution. For every 10 workers who left agriculture, only two found their way into industry. The service sector took the rest.

In Uganda, as in much of Africa, those leaving the agricultural sector struggle to find work outside the informal service sector. Although some new jobs in services were for skilled professionals in technology and finance, most were in low paid jobs such as waiting on tables for the rich and selling second hand clothes. 'There's been structural change,' said Yaw Ansu of the African Centre for Economic Transformation, 'but not the type that really improves the lives of people.' In 2016, GDP in Sub-Saharan Africa grew by just 1.4 per cent, while income per person fell.

So, what can be done in Africa? There is a growing interest in active industrial policies to increase the growth of African manufacturing. For example, the Ethiopian government has encouraged Asian apparel exporters to open factories in industrial parks, while protecting local firms in the domestic market. Foreign investment also helps, if transnationals connect with local suppliers and share know-how.

However, this approach may not work. Automation is transforming manufacturing – it is becoming a substitute for labour in countries at ever lower levels of income per head. The result is that Africans are not just competing with low-wage workers in Bangladesh and elsewhere; they are also having to compete with even cheaper robots.

This means the development path followed by economies such as Japan and China – moving from agriculture to low-margin labour-intensive manufacturing, such as clothing and toys – may be fast closing.



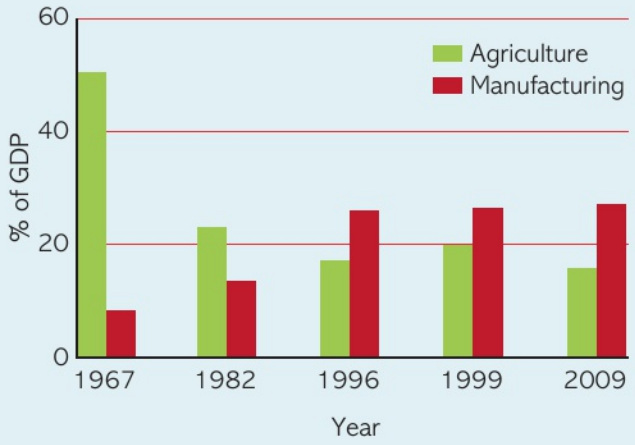

▲ **Figure 3 Employment in agriculture, industry, service (male), % of male employment (ILO estimate, 2017)**

Source: The World Bank Group

# EXAM PRACTICE

## DEVELOPMENT IN INDONESIA

SKILLS REASONING, ANALYSIS, CRITICAL THINKING




▲ Figure 4 Indonesia, output by sector for agriculture and manufacturing as a % of GDP

▲ Table 1: Indonesia exports and imports: Share of GDP, %

### EXTRACT A: DRIVING DEVELOPMENT THROUGH INDUSTRIALISATION

From 1990 to 1996, Indonesia's manufacturing sector, excluding oil and gas, expanded 12 per cent a year, contributing one-third of total growth. Economic growth, however, had slowed to just over 5.6 per cent by 2014, as the focus shifted away from industry back to natural resources.

Further industrialisation requires government action. The government needs to reform its employment laws. For example, employment protection laws, which push up costs for firms, can deter investors. These laws require firms to pay employees generous payments if there is an early termination of an employment contract. Trade unions argue that those laid off from jobs in Indonesia's crowded cities would fall into poverty without these protections. Another challenge for the manufacturing sector is the cost of transportation. The Asian Development Bank has estimated that Indonesia is facing a $700 billion infrastructure gap.

Despite industrialisation, agriculture is still important to Indonesia. However, in provinces where employment is very concentrated in the agricultural sector, incomes are considerably lower than in major urban areas, such as Jakarta. This is partly because of low labour productivity in parts of this sector. The wider use of modern farming techniques and better irrigation systems, though, should increase productivity in this sector in the future.

Industrialisation will not be the full answer to faster growth and development in Indonesia. There are questions around the impact technology will have on jobs. This is why the government wants to use a few strategies to promote growth. The aim is to diversify the economy by doubling tourism, improving the use of its fertile agricultural land and boosting manufacturing.

### EXTRACT B: DRIVING DEVELOPMENT

From the mid-1980s, trade barriers were reduced and Indonesia became more integrated in the global economy. There may be opportunities for Indonesia to gain further from trade. By 2019, the new free trading bloc called the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) should have come into force. There will be eleven

member countries, and South Korea, Indonesia and the Philippines have expressed an interest in joining in the future.

One objective in Indonesia's 2015–2020 development plan is to improve infrastructure. In 2014, President Widodo launched a campaign to build 1000 km of toll roads, 3000 km of railways, 24 sea ports, capacity to generate 35,000 megawatts of power and more during his five-year term. These projects are expected to cost a total of 4800 trillion rupiah ($355 bn).

Indonesia is often ranked well below Malaysia and Thailand in global measures of infrastructure quality. Poor-quality infrastructure has been a main obstacle in attracting more foreign direct investment. This is despite other cost advantages, such as low wages.

The development plan also sets out plans to improve health and education. The quality of health clinics and schools is inconsistent by middle income standards. There are schemes in place to improve learning outcomes in schools, particularly in rural areas which are inferior to those in urban areas. The objective is to improve the quality of human capital. Gross production per worker employed in manufacturing in Malaysia, for example, is more than 2.6 times higher than in Indonesia.

**1** In 2015 the IMF said that China's currency, the renminbi, was no longer undervalued. This followed more than a decade of criticism by the IMF of China's tight management of the renminbi. Why might China have wanted a low value of the renminbi? **(1 mark)**

(a) To reduce the price of imports for Chinese firms
(b) To develop the Chinese economy through export-led growth
(c) To increase supply-side growth by increasing imports of capital goods
(d) To reduce inflation

**2** Read the extracts provided and answer the following:

(a) In 1960, GDP per capita in Indonesia, at constant 2010 prices, was 690 US dollars. By 2016, GDP per capita, at constant 2010 prices, was 3974 US dollars. Calculate the percentage change in real GDP per capita between 1960 and 2016. **(2 marks)**

(b) Explain, with reference to extract B, what is meant by the phrase 'development of human capital'. **(4 marks)**

(c) With reference to Extract B and Table 1, analyse the likely impact of trade liberalisation on Indonesia's economic growth. **(6 marks)**

(d) With reference to Extract B, examine the likely impact of the $355 bn USD infrastructure project on the Indonesian economy. **(8 marks)**

(e) With reference to the information provided, discuss the benefits for Indonesia of using industrialisation as a strategy for further promoting economic growth and development. **(14 marks)**

**3** The Indonesian government wants to double the size of the country's tourist industry. Evaluate the potential economic benefits of expanding tourism for a developing country such as Indonesia. **(20 marks)**

**EXAM HINT**

For Question 2e, make sure your answer distinguishes between economic growth and economic development. Use the information to analyse the benefits Indonesia has already gained from industrialisation. Use the extracts carefully to find evidence for why further industrialisation may be beneficial. To evaluate, consider why the gains from expanding manufacturing in Indonesia might be limited. To what extent can Indonesia industrialise quickly, even if it wants to?

**EXAM HINT**

Although Question 3 is a stand-alone question, your answer to Question 2 might give you an idea of the range of issues to discuss. Consider the likely benefits of employment, FDI, GDP, balance of payments and tax revenue. For evaluation, consider the possible disadvantages. What are the risks of relying too much on tourism? What might limit the benefits for an economy?

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Page numbers in **bold** denote entries in subject vocabulary.


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# ECONOMICS

Student Book 2

## Additional Material

# GLOSSARY

**absolute advantage** exists when a country is able to produce a good more cheaply in absolute terms than another country

**absolute poverty** exists when individuals do not have the resources to be able to consume sufficient necessities to survive

**activity or participation rate** the percentage or proportion of any given population in the labour force

**adjustable peg system** an exchange rate system where currencies are fixed in value in the short term but can be devalued or revalued in the longer term

**aging population** where there is an upwards shift in the average age of the population of a country so that there is a growing number of people who are older than the standard working age

**allocative efficiency** occurs when scarce resources are used to produce a bundle of goods which satisfies consumer preferences and maximises their welfare

**appreciation of a currency** when the value of a currency rises because of free market forces or with a managed float, because of government intervention

**Asian tigers** the economies of Hong Kong, Singapore, South Korea and Taiwan, which all experienced rapid industrialisation and, at the same time, exceptionally high economic growth rates

**asset stripping** the practice of buying a company cheaply and then selling all the things it owns to make a quick profit

**automatic or built-in stabilisers** mechanisms which affect levels of government spending and taxation, without any direct intervention by the government, when national income changes; they occur automatically and act to minimise fluctuations in actual GDP around the long-term growth rate; they reduce the impact of changes in the economy on national income

**average cost (AC)** the average cost of production per unit, calculated by dividing the total cost by the quantity produced; it is equal to average variable cost + average fixed cost

**average fixed cost (AFC)** total fixed cost divided by the number of units produced

**average product (AP)** the quantity of output per unit of factor input; it is the total product divided by the level of output

**average revenue** the average amount received per unit sold; it is equal to total revenue divided by quantity sold

**average variable cost (AVC)** total variable cost divided by the number of units produced

**backward vertical integration** a joining together into one firm of two or more firms where the purchaser merges with one or more of its suppliers

**bailout** when financial support is provided to a company or a country facing a potential bankruptcy threat

**balance of payments** a record of all financial transactions made between residents of one country and the rest of the world

**barriers to entry** factors which make it difficult or impossible for firms to enter an industry and compete with existing producers

**barriers to exit** factors which make it difficult for firms to cease production and leave an industry

**bilateral aid** when aid is given directly by one country to another

**bilateral monopoly** when a single buyer faces a single seller in a market; in a labour market, this is most likely to occur when government is the single buyer of a type of labour and the workforce is unionised, so that the trade union acts as a single seller

**bilateral trade agreement** an agreement between two countries, or between a country and a trading bloc, which gives favourable trade arrangements; it reduces some barriers of trade between the two

**brand** a name, design, symbol or other feature that distinguishes a product from other similar products and which makes it non-homogeneous

**Bretton Woods system** an adjustable peg exchange rate system which was used in the post-Second World War period until its collapse in the early 1970s

**BRIC countries** Brazil, Russia, India and China

**buffer stock scheme** a scheme whereby an organisation buys and sells in the open market so as to maintain minimum and maximum prices in the market for a product

**business objective** a result that a firm aims to achieve

**capital account** shows the credit (money inflows) and debit items (money outflows) for non-produced, non-financial assets and capital transfers between residents and non-residents

**capital controls** intervention by governments to prevent capital flight

**capital flight** when savings are sent abroad by citizens and firms of a country to another country which is either seen as being more secure or where the money can be hidden from government authorities

**capital government expenditure** spending by government on investment goods, such as new roads, new hospitals or new street lighting

**cartel** a formal agreement between firms to limit competition in the market, for example by limiting output in order to raise prices

**child mortality** the number of children who die; data normally focuses on children under the age of 14/15 and also specifically on the under 5s

**collusion** collective agreements, either formal or tacit, between firms that restrict competition

**collusive oligopoly** a market with a high concentration ratio where a few interdependent firms cooperate, either formally or tacitly, to restrict competition

**common external tariff** a common tariff set by a group of countries imposed on imported goods from non-member countries

**common market** a group of countries between which there is free trade in products and factors of production, and which imposes a common external tariff on imported goods from outside the market; product standards and laws concerning free movement of goods and services are common between countries

**comparative advantage** exists when a country is able to produce a good at a lower opportunity cost than another country

**competitive tendering** introducing competition among private sector firms which put in bids for work that has been contracted out by the public sector

**concentrated market** a market where most of the output is produced by a few firms and where therefore the concentration ratio is high

**concentration ratio** the market share of the largest firms in an industry; for instance, a 5-firm concentration ratio of 60% shows that the five largest firms in the industry have a combined market share of 60%

**conglomerate integration** a joining together into one firm of two or more firms producing unrelated products

**consumer surplus** the difference between how much buyers are prepared to pay for a good and what they actually pay

**containerisation** the use of containers, with standardised dimensions, in the transport of goods

**contestable market** a market where there is freedom of entry to the industry and where costs of exit are low

**contracting out** getting private sector firms to produce the goods and services which are then provided by the state for its citizens

**co-operative** a firm owned, controlled and operated by a group of users, such as the workers, for their own benefit; they each contribute by buying shares in the co-operative but have control of the firm on the basis of a one member, one vote principle rather than having votes in proportion to the number of shares owned, i.e. one share, one vote

**cost-plus pricing** the technique adopted by firms of fixing a price for their products by adding a fixed percentage profit margin to the long run average cost of production

**crawling peg system** an adjustable peg system of exchange rates where there is an inbuilt mechanism for regular changes in the central value of the currency

**creative destruction** a process where firms produce or create innovative new products that replace or destroy existing products in the market; for example the internet has led to a significant shift of spending from 'bricks and mortar' high street shops to online shopping

**crowding in** in the context of public sector spending, crowding in occurs when extra government spending leads to higher private sector spending

**crowding out** in the context of public sector spending, crowding out occurs when extra government spending leads to lower private sector spending

**current account** where payments for the purchase and sale of goods and services are recorded, along with primary and secondary income flows

**current account deficit** when debits (– outflows of money) are greater than credits (+ inflows of money) on the current account

**current account surplus** when credits (+ inflows of money) are greater than debits (– outflows of money) on the current account

**current budget deficit** occurs when government revenues are less than current expenditure; it does not include government capital expenditure

**current government expenditure** spending by government on goods and services which will be consumed in the short term, such as teachers' salaries or heating for government buildings; it also includes transfer payments and debt interest

**customs union** a group of countries between which there is free trade in products and which imposes a common external tariff on imported goods from outside the market

**cycle of poverty** when poor children find it hard to escape poverty in adult life

**cyclical deficit** that part of the fiscal deficit which is caused by government spending and taxes changing through the trade cycle

**deadweight welfare loss** the overall loss in welfare which arises after a tariff is imposed

**debt servicing** the regular repayments which need to be made to the lender on outstanding loans; this includes interest repayments

**expenditure reducing** in a balance of payments context, government policies to reduce the level of aggregate demand in order to reduce imports and boost exports

**expenditure switching** in a balance of payments context, government policies such as devaluation or protectionism designed to switch production currently being sold domestically to exports

**exploitation** the act of using resources or a person's labour without offering adequate compensation

**external economies of scale** falling average costs of production, shown by a downward shift in the average cost curve, which result from a growth in the size of the industry within which a firm operates

**external shock** a demand-side or supply-side shock to an economy which has been caused by factors outside the individual country's control

**factors of production** the inputs to the production process: land, labour, capital and enterprise or entrepreneurship

**financial account** a record of almost all the flows of financial capital into and out of a country; it is split into three main parts

**fiscal austerity** tax rises or government spending cuts designed to reduce a fiscal deficit (a government budget deficit)

**fiscal deficit** when government spending is greater than government revenue

**fiscal policy** the deliberate manipulation of government expenditure and taxes to influence the economy

**fiscal surplus** when government spending is less than its revenue

**fiscal union** a group of countries where a central body has some powers over government borrowing, government spending and setting uniform rates of taxation in member countries

**fixed cost (FC) or indirect or overhead costs** costs which do not vary as the level of production increases or decreases

**fixed exchange rate system** a rate of exchange between at least two currencies which is constant over a period of time

**floating or free exchange rate system** where the value of a currency is determined by free market forces and where the value of a currency changes from day to day

**foreign direct investment (FDI)** flows of money between countries where one firm buys or sets up another firm in another country

**foreign currency (exchange) gap** the difference between the actual level of exports and the level of exports needed to create higher economic growth for an economy

**foreign exchange markets** trading arrangements where currencies are bought and sold for each other

**formal collusion** when firms make agreements among themselves to restrict competition, typically by reducing output, raising prices and keeping potential competitors out of the market; cartels are one example of formal collusion

**formal jobs** jobs in the formal sector; these jobs have employment contracts and employees are protected by employment laws

**formal sector** activities in the economy which are recorded in national income statistics

**for-profit organisations** organisations that have making a profit as a goal

**forward vertical integration** a joining together into one firm of two or more firms where the supplier merges with one or more of its buyers

**free trade** international trade conducted without the existence of barriers to trade, such as tariffs or quotas

**free trade area** a group of countries between which there is free trade in goods and services but where member countries are allowed to set their own level of tariffs against non-member countries

**game theory** the analysis of situations in which players are interdependent

**geographical immobility** when workers find it difficult to move from one area to another

**geriatric industry** an industry which is in decline

**Gini coefficient** a statistical measure of inequality of income; its value ranges from 0, where there is perfect equality of income, to 1 where income is highly unequal with one person having all the income and everyone else having no income

**Gini index** the Gini coefficient times 100

**globalisation** from an economic perspective, the ever increasing integration of the world's local, regional and national economies into a single international market

**gold and foreign currency reserves** gold and foreign currency owned by the central bank of a country and used mainly to change the foreign exchange value of the domestic currency by buying and selling currency on foreign exchanges

**greenfield foreign direct investment** when a firm in one country creates a firm in another country from scratch, or extends the production capacity of an existing firm

**harmonisation** establishing common standards, rules and levels on everything from safety standards to tariffs, taxes and currencies

**deflationary policies** fiscal or monetary policies aimed at reducing aggregate demand

**demand management** government use of fiscal or other policies to manipulate the level of aggregate demand in the economy

**demerger** when a firm splits into two or more independent businesses

**demographic dividend** economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older)

**demographics** the statistics of the characteristics of a population who live in a particular area or country; examples of the characteristics that can be included are age, income, education, gender, ethnicity

**depreciation of a currency** when the value of a currency falls because of free market forces or with a managed float, because of government intervention

**deregulation** the process of removing government controls from markets

**derived demand** demand for labour is derived from the demand for the product

**devaluation of a currency** when a government or central bank officially fixes a new lower exchange rate for the currency in a fixed or pegged system of exchange rates

**developed countries** high-income countries, such as France, Germany, Spain and the US

**developing or less developed countries** broadly, middle-income and low-income countries

**direct control** a government measure that is imposed on the price or the quantity of a single product or factor of production.

**direct tax** a tax levied directly on an individual or organisation

**discretionary fiscal policy** the deliberate manipulation of government spending and taxes to influence the economy

**discrimination** occurs in the labour market when there is an information failure leading employers to appreciate one group in society and deliberately undervalue another group

**diseconomies of scale** a rise in the long run average costs of production as output rises

**disposable income** household income over a period of time including state benefits, less direct taxes

**dividends** a share of the profit of a company that is distributed to its shareholders according to the number of shares held by them

**divorce of ownership from control** occurs when the managers and directors of a business are a different group of people from the owners of the business

**dumping** the sale of goods at less than cost price by foreign producers in the domestic market

**Dutch disease** in economics, where exploitation of natural resources leads to a rise in the exchange rate and the loss of international competitiveness of the country in the production of non-resource goods and services

**dynamic efficiency** occurs when resources are allocated efficiently over time

**economic cost** the opportunity cost of an input to the production process

**economic development** improvement over time of a wide range of economic indicators such as Gross National Income (GNI), life expectancy, educational achievement, access to clean water and mobile phone connections

**economic union** a group of countries where the economies of member countries are as fully integrated economically as different regions within a single country; for example, a single market will be combined with a fiscal and monetary union

**economic welfare** the level of well-being or prosperity or living standards of an individual or group of individuals, such as a country

**economically active** the number of workers in the workforce who are in a job or are unemployed

**economies of scale** a fall in the long run average costs of production as output rises

**effective exchange rate or trade weighted exchange rate index** measure of the exchange rate of a country's currency, usually against a basket of currencies of a country's major trading partners

**elasticity of demand for labour** the responsiveness of the quantity demanded of labour to changes in the price of labour, the wage rate; it is measured by the formula

$$\frac{\%\text{ change in quantity of labour demanded}}{\%\text{ change in the wage rate}}$$

**emerging countries (sometimes called newly industrialised countries or NICs)** middle-income countries which could become high-income countries over the next 20 or 30 years

**exchange rate** the value of one currency when traded for another currency

**exchange rate policy** the manipulation of the exchange rate to achieve policy objectives

**exchange rate systems** systems which determine the conditions under which one currency can be exchanged for another

**expansionary fiscal policy** fiscal policy that leads to an increase in aggregate demand

**Harrod–Domar growth model** a model which suggests that economic growth is dependent on the saving ratio and technological progress

**hit-and-run competition** when firms can enter a market at low cost attracted by high profits and then leave the market at low cost when profits fall

**homogeneous goods** goods made by different firms but which are identical

**horizontal integration** a joining together into one firm of two or more firms in the same industry at the same stage of production

**Human Development Index (HDI)** a measure of development developed by the United Nations based on three components: health, education and income

**hyperinflation** large increases in the price level

**imputed cost** an economic cost which a firm does not pay for with money to another firm but is the opportunity cost of factors of production which the firm itself owns

**independent** in market theory, when the actions of one firm will have no significant impact on any other single firm in the market

**index of terms of trade** equal to:

$$\frac{\text{index of export prices}}{\text{index of import prices}} \times 100$$

**indicators of development** the range of data which is used to help measure development, such as Gross National Income (GNI levels), life expectancy and the percentage of adult male labour in agriculture

**indirect tax** a tax on a good or service

**industrialisation** when an economy moves from one where output and employment are dominated by agriculture to one where manufacturing has a much higher share

**infant industry** an industry which is just starting up and in its early stages of development

**informal jobs** jobs in the informal sector; informal jobs have little or no protection for employees; they are usually poorly paid with little training and low career progression

**informal sector** activities in the economy which are not recorded in national income statistics

**interdependent** in market theory, when the actions of one firm will have an impact on other firms in the market

**interdependent** a situation where the actions of one large firm will directly affect another large firm

**intergenerational equity** fairness between different generations

**internal economies of scale** economies of scale which arise because of the growth in the scale of production within a firm

**international competitiveness** the ability of a firm or a country to compete effectively in international markets

**interventionist strategies** strategies where government plays a leading role, regulating and manipulating markets or bypassing markets through direct provision of goods and services

**J curve effect** in the short term, a devaluation is likely to lead to a deterioration in the current account position before it starts to improve

**joint venture** where a separate business entity is created by two or more parties; it involves sharing ownership, returns and risks of the new project or other business activity for which the joint venture was set up

**labour productivity** output per hour worked or output per worker; it is often measured as real GDP per hour worked

**Laffer curve** a curve which shows that at low levels of taxation, tax revenues will increase if tax rates are increased. However, if tax rates are high, then a further rise in rates will reduce total tax revenues because of the disincentive effects of the increase in tax

**law of diminishing returns or marginal productivity** if increasing quantities of a variable input are combined with a fixed input, eventually the marginal product and then the average product of that variable input will decline; diminishing returns are said to exist when this decline occurs

**life expectancy** number of years a newborn infant could expect to live typically within a country, assuming patterns of death remain as they are

**limit pricing** when firms set a low enough price to deter new entrants from coming into the market

**limited company** a type of business organisation where the owners are its shareholders, i.e. those who have bought a share of the business by buying shares in the company; it offers limited liability or legal protection to the shareholders as the company and its owners are legally separate

**long run** the period of time when all factor inputs can be varied, but the state of technology remains constant

**long-run shut down** where normal profit is not being earned in the long run

**Lorenz curve** a graphical representation of the degree of income or wealth inequality in society

**loss** where total cost is greater than total revenue

**low-income countries** sometimes called least developed countries

**managed exchange rate system or hybrid or intermediate system** an exchange rate system where free markets determine the value of a currency but where central banks intervene from time to time to change the value of their currency

**managed or dirty float** where the exchange rate is determined by free market forces but governments intervene from time to time to alter the free market price of a currency

**marginal cost (MC)** the cost of producing an extra unit of output

**marginal physical product (MPP)** the physical addition to output of an extra unit of a variable factor of production

**marginal product (MP)** the addition to output produced by an extra unit of input; it is the change in total output divided by the change in the level of inputs

**marginal revenue** the addition to total revenue from the sale of an extra unit

**marginal revenue product (MRP)** the value of the physical addition to output of an extra unit of a variable factor of production; in a perfectly competitive product market, where marginal revenue equals price, it is equal to marginal physical product times the price of the good produced

**market concentration** the degree to which the output of an industry is dominated by its largest producers

**market conduct** the behaviour of firms, such as pricing policies, promotion of products, branding and collusion with other firms

**market share** the proportion of sales in a market taken by a firm or a group of firms

**market structures** the characteristics of a market which determine the behaviour of firms within the market

**market-orientated strategies** strategies which rely upon free markets to deliver economic development

**Marshall–Lerner condition** devaluation will lead to an improvement in the current account so long as the combined price elasticities of exports and imports are greater than 1

**maximum wage** a legal maximum wage rate per hour or total pay; employers cannot pay a higher amount than this to their workers

**median household income** the level of income the middle household would receive if all households were ordered from the poorest income to the richest income

**merchandise** goods to be bought or sold

**merger or takeover** the joining together of two or more firms under common ownership

**microfinance schemes** when very small loans are given out to individuals, by non-governmental organisations, who would otherwise not have access to borrowed money

**minimum efficient scale (MES) of production** the lowest level of output at which long run average cost is minimised

**minimum wage** a legal minimum wage rate per hour which employers must pay their workers

**monetary policy** changes to monetary variables by central banks, such as interest rates and the money supply, to achieve its objectives

**monetary union or currency union** a group of countries which share a common currency, such as the euro

**monopolist** a firm which controls all the output in a market

**monopolistic competition** a market structure where a large number of small firms produces non-homogeneous products and where there are no barriers to entry or exit

**monopoly or pure monopoly** market structure where one firm supplies all output in the market without facing competition because of high barriers to entry to the market

**monopoly power** exists when firms are able to control the price they charge for their product in a market

**monopsony** exists when there is only one buyer in the market

**multifactor productivity** the overall efficiency with which labour and capital inputs are used together in the production process

**multilateral aid** when donor countries give money to an international agency, and the agency then disperses the aid

**multilateral or plurilateral trade agreement** a regional trade agreement between three or more countries or trading blocs

**multiplier effect** the increase in final income arising from any new injection of spending

**national debt** the total accumulated borrowing of the government which remains to be paid to lenders

**national security** the security of a nation state; both military and non-military dimensions, such as energy security, food security, cyber security and environmental security, are included

**nationalisation** the transfer of firms or assets from private sector ownership to state ownership; it is the opposite of privatisation

**natural monopoly** a monopoly that arises due to continuing falling economies of scale

**net benefits** as well as the wage rate, the supply of labour is influenced by non-monetary benefits or drawbacks, such as changes in working conditions, job security, holiday entitlement, promotion prospects, and other effects of working in a particular job or occupation

**net migration** the difference between emigration and immigration

**niche market** a market for a product or service, perhaps an expensive or unusual one, that does not have many buyers but that may make good profits for companies that sell it

**nominal exchange rate** the rate at which one currency is bought and sold on the foreign exchange markets for another currency

**non-homogenous goods** goods made by different firms which are similar but not identical, such as branded goods

**non-price factors** factors other than price which affect competitiveness

**non-tariff barrier** restriction on free trade other than a tariff

**normal profit** the profit that the firm could make by using its resources in their next best use; normal profit is an economic cost

**not-for-profit organisations** organisations that do not have making a profit as a goal but may use any profit or surplus they generate to support their aims

**occupational immobility** when workers find it difficult to transfer from one occupation to another

**oligopoly** a market structure where there is a small number of firms in the industry and where firms are interdependent with one another, creating uncertainty; barriers to entry are likely to exist

**opportunity cost** the benefits foregone of the next best alternative

**optimal level of production** the range of output over which long-run average cost is lowest

**organic growth** a firm increasing its size through investment in capital equipment or an increased labour force

**partnership** a type of business organisation where two or more people own the business

**pattern of trade** refers to composition of exports and imports and geographical distribution of trade

**payday lenders** lenders who give loans for small amounts to borrowers who are supposed to repay the loan on their next pay day or when they next receive their welfare benefit; users of payday lenders often find it hard to arrange credit elsewhere

**per annum** per year

**per person or per head or per capita** per individual in a population

**perfect competition** a market structure where there are many buyers and sellers, where there is freedom of entry and exit to the market, where there is perfect knowledge and where all firms produce a homogeneous product

**perfect knowledge** exists if all buyers in a market are fully informed of prices and quantities for sale, while producers have equal access to information about production techniques

**Prebisch–Singer hypothesis** suggests that over the long run, the prices of commodities will fall compared to all other goods, such as manufactured goods; this suggests that countries with a high export dependency on primary products will experience a continued worsening of their terms of trade

**predatory pricing** a pricing strategy where an incumbent firm lowers its prices when a new entrant comes into the market in order to force the competitor out of the market, and then puts prices back up again once this objective has been achieve

**price agreement** a type of formal collusion where two or more firms arrange to fix prices of their products

**price discrimination** charging a different price for the same good or service in different markets

**price follower** a firm which sets its price by reference to the prices set by the price leader in a market

**price leadership** when one firm, the price leader, sets its own prices and other firms in the market set their prices in relationship to the price leader

**price taker** a firm which has no control over the market price and has to accept the market price if it wants to sell its product

**price wars** a situation where several firms in a market repeatedly lower their prices to outcompete others firms; the objective may be to gain or defend market share

**primary deficit or surplus** the actual fiscal deficit or surplus, not taking into account interest payments on the national debt

**prisoner's dilemma** a game where, given that neither player knows the strategy of the other player, the optimum strategy for each player leads to a worse situation than if they had known the strategy of the other player and been able to co-operate and co-ordinate their strategies

**private sector organisations** organisations that are owned by individuals or companies and not the state

**privatisation** the transfer of organisations or assets from state ownership to private sector ownership; it is the opposite of nationalisation

**product differentiation** aspects of a good or service which serve to distinguish one product from another such as product formulation, packaging, marketing or availability

**production possibility frontier** a curve which shows the maximum potential level of output of one good given a level of output for another good

**productive efficiency** achieved when production is achieved at lowest average cost

**profit** the difference between total revenue and total cost

**profit maximisation** occurs when the difference between total revenue and total cost is greatest

**profit satisficing** making sufficient profit to satisfy the demands of owners, such as shareholders

**profiteering**

**progressive taxes** taxes which take a higher percentage from the income of high-income earners than they do from low-income individuals; a tax where the proportion of income paid in tax rises as the income of the taxpayer rises

**proportional tax** a tax where the proportion paid in tax remains the same while the income of the taxpayer changes

**protectionism** the use of economic policies to regulate trade between countries, mainly to reduce imports

**purchasing power parity** an exchange rate of one currency for another which compares the cost of a typical basket of goods in different countries

**purchasing power parity theory of exchange rates** the hypothesis that long run changes in exchange rates are caused by differences in inflation rates between countries

**quota** a physical limit on the quantity of an imported good

**real exchange rate** the ratio of the cost of a typical bundle of goods in one country compared to its cost in another country in the currencies of each country

**redistribution** when income and wealth is taken by governments from some individuals and given to others

**reflationary policies** fiscal or monetary policies aimed at increasing aggregate demand

**regional trade agreement** an agreement between at least two countries to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves

**regressive taxes** taxes which take a higher percentage from the income of low-income earners than they do from high-income earners; a tax where the proportion of income paid in tax falls as the income of the taxpayer rises

**regulation of transfer pricing** rules made by governments on transfer pricing to ensure the amount of profits paid by TNCs is 'fair'

**regulatory capture** an example of government failure, it occurs when firms in an industry are able to influence to their advantage a regulatory body which is supposed to be regulating their behaviour

**relative export prices** export prices of a country's goods and services, compared to the export prices of that country's main trading partners

**relative poverty** poverty which is defined relative to existing living standards for the average individual; measurement of relative poverty often focuses on how the poorest incomes compare with the median household income in a country

**relative productivity** labour productivity compared to other countries

**relative unit labour costs** unit labour costs compared to other countries

**resource curse** exists where an abundance of natural resources in a country is exploited, but there is consequently little increase in economic development

**restrictions on free trade or trade barriers** any measure which artificially restricts international trade

**returns to scale** the change in percentage output resulting from a percentage change in all the factors of production; there are increasing returns to scale if the percentage increase in output is greater than the percentage increase in factors employed, constant returns to scale if it is the same and decreasing returns to scale if it is less

**revaluation of a currency** when a government or central bank officially fixes a new higher exchange rate for the currency in a fixed or pegged system of exchange rates

**revenue maximisation** occurs when total revenue is highest and when marginal revenue equals zero

**sales volume maximisation** occurs when the volume of sales is greatest; when the objective of a firm, this is usually subject to a profit satisficing constraint

**savings gap** in development economics, the difference between the actual level of savings in an economy and the level of savings needed to finance the investment required for a higher rate of economic growth

**semi-variable cost** a cost which contains within it a fixed cost element and a variable cost element

**shareholder** any person or company that owns one or more shares in a limited company

**short run** the period of time when at least one factor input to the production process cannot be varied

**short-run shut down** where variable costs are not being covered

**sole trader or sole proprietor** a business owned and controlled by one person

**specialisation** when nations are not self-sufficient, but concentrate on producing certain goods and services and trading the surplus with others

**spot market** a market where commodities (oil, metals, farm products, etc.) are bought for immediate delivery, rather than a futures market

**state-owned enterprises (SOEs)** large organisations that are created by a country's government to carry out commercial activities

**structural changes in the economy** any basic changes in the way resources are allocated in an economy

**structural deficit** that part of a fiscal deficit that exists even when the cyclical deficit is zero at the top of a boom

**structural unemployment** when the pattern of demand and production changes, leaving workers unemployed in labour markets where demand has shrunk

**subsidy** a grant that lowers the price of a good, usually designed to encourage production or consumption of a good

**sunk costs** cost which cannot be recovered when a firm leaves an industry

**supernormal profit** the profit over and above normal profit

**supply chain** the number of businesses which are involved, at different stages, in the production and distribution of a single good

**supply of labour to an occupation** the number of workers willing and able to work in a particular job or occupation for a given wage rate

**supply-side policies** government policies designed to increase the productive potential of the economy

**sweatshop** a small business, factory etc. where people work hard in bad conditions for very little money

**synergy/synergies** when two or more activities or firms put together can lead to greater outcomes than the sum of the individual parts

**tacit collusion** when firms collude without any formal agreement having been reached and where there is no explicit communication between firms about strategies; an example is price leadership

**tariff or import duty or customs duty** a tax on imported goods which has the effect of raising the domestic price of imports and thus restricting demand for them

**tax avoidance** when an individual or firm deliberately manipulates the tax system to pay less than the 'fair' amount

**tax base** the income and wealth which a government can tax based on their tax laws

**tax haven** a place where people go to live to avoid paying high taxes in their own country

**terms of trade** measure the rate of exchange of one product for another when two countries trade; the ratio of export prices to import prices

**theory of comparative advantage** states that countries will find it mutually advantageous to trade if the opportunity cost of production of goods differs

**tied aid** offering aid on the condition that it is used to buy goods or services from the provider of the aid

**tiger economy** an economy which undergoes rapid economic growth; the term was originally applied to the four Asian tigers – South Korea, Taiwan, Hong Kong and Singapore

**total cost (TC)** the cost of producing any given level of output; it is equal to total variable cost + total fixed cost

**total fixed cost (TFC)** the value of the cost of production which does not vary however many units are produced

**total physical product (TPP)** the total output of a given quantity of factors of production

**total product (TP)** the quantity of output measured in physical units produced by a given number of inputs over a period of time

**total revenue** the total money received from the sale of any given quantity of output

**total variable cost (TVC)** the overall cost of those factors of production that vary directly with the amount produced

**trade creation** the switch from purchasing products from a high-cost producer to a lower-cost producer

**trade diversion** the switch from purchasing products from a low-cost producer to a higher-cost producer

**trade liberalisation** the move towards greater free trade through the removal of protectionist barriers to trade

**trading bloc** a group of countries that have signed an agreement to reduce or eliminate tariffs, quotas and other protectionist barriers between themselves

**transfer payments** spending for which there is no corresponding real output; in government expenditure, transfer payments are welfare payments such as the state pension or child benefit

**transfer pricing** an accounting technique used by transnational companies to reduce taxes on profits by selling goods at a low price internally from a high-tax country to another part of the company in a low-tax country

**transnational/multinational company or transnational/multinational corporation** a company with significant product operations in at least two countries

**uncertainty** in market theory, when one firm does not know how other firms in the market will react if it changes its strategy, such as changing its price

**underemployment** where people are not able to work as many hours as they would like, or are in jobs that are below their skill level

**unit labour cost** cost of employing labour per unit of output or production

**unlimited liability** the owners of the business are personally liable for its debts and may have to sell personal assets to pay for them

**variable cost (VC) or direct or prime costs** costs which vary directly in proportion to the level of output of a firm

**vertical integration** a joining together into one firm of two or more firms at different production stages in the same industry

**very long run** the period of time when the state of technology may change

**welfare benefits** money paid by a government to give financial benefits to people who are ill, unemployed, on a low income or too old to work

**working population** size of the population aged between the school leaving age and the state retirement age

**X-inefficiency** inefficiency arising because a firm or other productive organisation fails to minimise its average costs of production at a given level of output

**Δ** means 'change in'

# PREPARING FOR YOUR INTERNATIONAL ECONOMICS A LEVEL EXAMS

**Paper 3 and Paper 4 overview**

- Each paper will include: multiple-choice, short open response and extended-writing questions. Some of these will relate to sources.
- Each paper will include questions that target quantitative skills. This may include making and interpreting calculations and drawing and interpreting diagrams. Calculators may be used in the examination.
- There are nine quantitative skills that will be assessed at International Advanced Level. The assessment of quantitative skills will constitute a minimum of 20% of the overall marks for the International Advanced Level.
- Below is a list of the quantitative skills that can be tested at International A Level.

| IAS Quantitative skills |
|---|
| **QS1** Calculate, use and understand ratios and fractions |
| **QS2** Calculate, use and understand percentages, percentage changes and percentage point changes |
| **QS3** Understand and use the terms mean and median. |
| **QS4** Construct and interpret a range of standard graphical forms |
| **QS5** Calculate and interpret index numbers |
| **QS6** Calculate cost, revenue and profit (marginal, average, totals) |
| **QS7** Make calculations to convert from money to real terms |
| **QS8** Make calculations of elasticity and interpret the result |
| **QS9** Interpret, apply and analyse information in written, graphical, tabular and numerical forms. |

**IA2 Paper 3: Business behaviour: 2 hours**

**IA2 Paper 4: Developments in the global economy: 2 hours**

The format for both exam papers is the same and is as follows:

Section A: Six multiple-choice questions, each worth 1 mark (6 marks)

Section B: One five-part question, based on data provided in the source booklet. (34 marks)

(a) 2 marks
(b) 4 marks
(c) 6 marks
(d) 8 marks
(e) 14 marks

Section C: Two 20-mark essay questions from a choice of three. (40 marks)

**Total marks per paper** **(80 marks)**

**Total marks for both papers** **(160 marks)**

## Exam papers in detail

### Section A

In Section A, you will be given six multiple-choice questions and you need to answer **all** of them. Even if you are not sure of the answer to a question, you should always select an answer. No deductions will be made for wrong answers. Each question is worth 1 mark. This section will be primarily focused on test assessment objectives AO1 and AO2. This section will also provide an opportunity to test quantitative skills.

### Command words

Questions in **Section B** and **Section C** will include the use of the following command words. The table shows the list of command words along with the outline of what each type of question requires students to do.

| Command word | Number of marks | What students are required to do |
|---|---|---|
| Define | 2 | Requires knowledge and understanding only. Requires students to give the meaning of a term, concept or phrase. |
| Calculate | 2 or 4 | Assesses quantitative skills. Requires a calculation involving several stages based on given data and may involve the use of a prescribed diagram or formula. Calculators may be used. Students are advised to show workings. |
| Draw | 4 | Assesses quantitative skills. Requires students to construct an accurately labelled diagram, using quantitative skills. Students may be required to decide on a type of diagram, or the type required may be stated. |
| Explain | 4 | When asking students to explain a term or the characteristics, this requires knowledge, understanding and application.<br>When asking students to explain a reason or impact, this also includes analysis as it requires a two-stage chain of reasoning. |
| Analyse | 6 | Requires knowledge, understanding, application and analysis. Requires an explanation which includes a chain of reasoning, and diagrams where appropriate. Focuses on depth rather than breadth. Any relevant data provided needs to be interpreted. Does not include evaluation. |
| Examine | 8 | Requires knowledge, understanding, application, analysis and evaluation. Requires an explanation which includes a chain of reasoning, and diagrams where appropriate. Focuses on depth rather than breadth. Any relevant data provided needs to be interpreted. There should be a brief assessment of the arguments/factors/evidence. |
| Discuss | 14 | Requires knowledge, understanding, application, analysis and evaluation. Logical and coherent chains of reasoning need to be developed with reference to context, where appropriate. The validity and significance of arguments/models and concepts should be considered and supported by relevant chains of reasoning. There should also be a recognition of different viewpoints and/or a critical assessment of the evidence. |
| Evaluate/To what extent | 20 | Requires knowledge, understanding, application, analysis and evaluation. Logical and coherent multi-stage chains of reasoning need to be developed with reference to context, where appropriate. The validity and significance of arguments/models and concepts should be considered and supported by relevant chains of reasoning. There should also be a recognition of different viewpoints and/or a critical assessment of the evidence so that informed judgements may be made. |

**Section B**

In Section B, you will have to answer five questions (7a–7e) based on economics-related source material. The source material may include both data, graphical information and written extracts. You will be expected to write an extended answer worth 14 marks in part (e). This question will be marked using a level-based mark scheme, with 8 marks available for 'Knowledge, Application and Analysis', and 6 marks available for 'Evaluation'.

The five-part question, based on data provided in the source booklet will be worth the following marks:

(a) 2 marks – typically a 'define' question worth 2 'Knowledge' marks
(b) 4 marks – typically an 'explain' question with 2 'Knowledge' marks and 2 'Application' marks
(c) 6 marks – typically an 'analysis' question with 2 'Knowledge' marks, 2 'Application' marks and 2 'Analysis' marks
(d) 8 marks – typically an 'examine' question with 2 'Knowledge' marks, 2 'Application' marks, 2 'Analysis' marks and 2 'Evaluation' marks
(e) 14 marks – typically a 'discuss' question which is awarded 8 marks for 'Knowledge, Application and Analysis' based on a level-based marking grid which has three levels; and 6 marks for 'Evaluation' based on a level-based marking grid which has three levels.

The level-based marking grids used in part (e) are given in the mark scheme in the International Advanced Level Economics Sample Assessment Materials on page 39:

**For Knowledge, Application and Analysis (8 marks)**

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material |
| Level 1 | 1–3 | Displays isolated, superficial or imprecise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Use of generic material or irrelevant information or inappropriate examples.<br>Descriptive approach, which has no chains of reasoning. |
| Level 2 | 4–6 | Displays elements of knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to apply knowledge and understanding to some elements of the question.<br>Some evidence and contextual references are evident in the answer.<br>Chains of reasoning in terms of cause and/or consequence are evident but they may not be developed fully, or some stages are omitted. |
| Level 3 | 7–8 | Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to link knowledge and understanding in context using relevant examples which are fully integrated to address the broad elements of the question.<br>Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence. |

**For Evaluation (6 marks)**

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material |
| Level 1 | 1–2 | Identification of generic evaluative comments.<br>No supporting evidence/reference to context.<br>No evidence of a logical chain of reasoning. |
| Level 2 | 3–4 | Evidence of evaluation of alternative approaches.<br>Some supporting evidence/reference to context.<br>Evaluation is supported by a partially-developed chain of reasoning. |
| Level 3 | 5–6 | Evaluation recognises different viewpoints and/or is critical of the evidence, leading to an informed judgement.<br>Appropriate reference to evidence/context.<br>Evaluation is supported by a logical chain of reasoning. |

**Section C**

In Section C, you will be given three essay questions and you need to pick **two** to answer. Each question may include a short piece of information on the question topic. This question will use the command words 'Evaluate' or 'To what extent'. The essay will be worth 20 marks, which consists of 12 marks for 'Knowledge, Application and Analysis' and 8 marks for 'Evaluation'. The essay will be marked using a level-based marking grid.

Your response must demonstrate a logical and coherent multi-stage chain of reasoning, which needs to be developed with reference to context, where appropriate. The validity and significance of arguments/models and concepts should be considered and supported by relevant chains of reasoning. There should also be a recognition of different viewpoints and/or a critical assessment of the evidence so that informed judgements/arguments may be made.

The level-based marking grid used in Section C is given in the mark scheme in the International Advanced Level Economics Sample Assessment Materials on pages 40 and 41:

**For Knowledge, Application and Analysis (12 marks)**

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material |
| Level 1 | 1–3 | Displays isolated, superficial or imprecise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Use of generic material or irrelevant information or inappropriate examples.<br>Descriptive approach which has no chains of reasoning. |
| Level 2 | 4–6 | Displays elements of knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Limited application of knowledge and understanding to economic problems in context.<br>A narrow response or superficial, only two-stage chains of reasoning in terms of cause and/or consequence. |
| Level 3 | 7–9 | Demonstrates accurate knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to apply knowledge and understanding to some elements of the question.<br>Some evidence and contextual references are evident in the answer.<br>Analysis is clear and coherent. Chains of reasoning in terms of cause and/or consequence are evident, but they may not be developed fully, or some stages are omitted. |
| Level 4 | 10–12 | Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models.<br>Ability to link knowledge and understanding in context, using appropriate examples which are fully integrated to address the broad elements of the question.<br>Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence. |

**For Evaluation (8 marks)**

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | No rewardable material |
| Level 1 | 1–3 | Identification of generic evaluative comments.<br>No supporting evidence/reference to context.<br>No evidence of a logical chain of reasoning. |
| Level 2 | 4–6 | Evidence of evaluation of alternative approaches.<br>Some supporting evidence/reference to context.<br>Evaluation is supported by a partially-developed chain of reasoning. |
| Level 3 | 7–8 | Evaluation recognises different viewpoints and/or is critical of the evidence, leading to an informed judgement.<br>Appropriate reference to evidence/context.<br>Evaluation is supported by a logical chain of reasoning. |

### Skills required when answering questions

One important element in your preparation for the Economics A Level examination (Papers 3 and 4) is to understand the skills required to be successful. You will need to demonstrate four different skills, referred to as assessment objectives (AOs).

**AO1 – Knowledge.** This means you must:
Demonstrate knowledge of economic terminology, concepts, theories and models to show an understanding of the behaviour of economic agents (e.g. consumers, firms and governments) and how they are affected by and respond to economics issues (e.g. the introduction of a sugar tax).
All questions will test knowledge to some extent.
AO1 is worth 18.8% of the marks at International A2 Level. It is worth 23.1% of the marks in your A Level overall.

**AO2 – Application.** This means that you must:
Apply knowledge and understanding to various economic contexts to show how economic agents (consumers, firms and governments) are affected by, and respond to, economic issues. The context may, for example, be provided in a data response question or in the title of an essay.

**Examples of application might include:**

- using relevant concepts and theories to provide an answer that is focused on the question set
- presenting a valid, relevant diagram
- using numerical and statistical data that is related to the context, including your own calculations (e.g. stating that for a firm selling a product that has a PED of –2, a 10% fall in the price will lead to a 20% increase in the quantity demanded)
- using data taken from the extracts in a data response question
- Using your own knowledge of real-world events in a manner that is linked to the context of the question.

Most questions in the examination will require you to demonstrate application. This means that you must ensure that your answers relate directly to the context given in the question.
AO2 is worth 22.5% of the marks at International A2 Level. It is worth 26.3% of the marks in your A Level overall.

**AO3 – Analysis.** This means you must:
Analyse issues and evidence, showing an understanding of their impact on economic agents.

**Examples of analysis might include:**

- the construction of an argument using a logical chain of reasoning
- making use of a diagram to help construct a logical argument
- breaking down a complex problem into smaller elements to provide a clearer understanding of the problem
- explaining relationships between different aspects of the problem
- using relevant economic concepts and principles in a logical fashion to make it easier to understand the key elements of a complex problem
- making inferences and drawing conclusions from numerical and/or statistical data
- presenting an answer that is well organised and has a clear, logical structure.

All questions worth 6 or more marks will include some marks for analysis. Explain questions worth 4 marks which ask the candidate to explain a reason or impact will included 2 marks for analysis.
AO3 is worth 28.8% of the marks at International A2 Level. It is worth 25.6% of the marks in your A Level overall.

**AO4 – Evaluation.** This means that you must:
Evaluate by making reasoned judgements, by questioning your analysis and assessing different points of view. You will need to evaluate both qualitative and quantitative evidence to make informed judgements relating to economics issues.

**Examples of evaluation might include:**

- making judgements
- using a logical argument to support judgements
- supporting judgements using qualitative evidence
- supporting judgements using quantitative evidence
- assessing the strengths and limitations of the supporting evidence
- assessing the impact on different social groups or economic agents
- distinguishing between possible short-run and long-run effects
- showing an appreciation of the role of assumptions and the significance of relaxing or modifying the assumptions
- presenting both sides of an argument (or point of view)
- providing a critical appraisal of an argument (or point of view) that has been presented
- presenting and assessing the relative merits of alternative arguments (or points of view) before arriving at a conclusion
- presenting a conclusion which may be tentative or qualified
- where relevant, developing and proposing a solution to a problem
- consideration of the significance of other factors, influences or events that might affect the validity of any conclusions
- showing an appreciation of the role of value judgements when supporting conclusions.

When evaluating, it is often possible to draw several different conclusions. Very often in economics there is no 'right' answer, so examiners are likely to be more interested in whether your judgment is plausible and the quality of your argument in support of that judgment. Questions that carry 8 marks or more will include some marks for evaluation.
AO4 is worth 30% of the marks at International A2 Level. It is worth 25% of the marks in your A Level overall.

**General advice**
You should familiarise yourself with the layout of the paper by looking at the sample assessment materials published by Edexcel. The questions within each section are followed by lined spaces where you should write your answer. Use the mark allocation as a guide to how much time to spend on each question.